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MEDICAL RECORD

A Weekly Journal of Medicine and Surgery

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Volume 38

JULY 5, 1890—DECEMBER 27, 1890

NEW YORK
WILLIAM WOOD & COMPANY
1890

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Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 1. **Whole No. 1026.** NEW YORK, JULY 5, 1890. **$5.00 Per Annum.** **Single Copies, 10c.**

Original Articles.

STRICTURE OF THE ŒSOPHAGUS.[1]

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STRICTURE of the œsophagus consists of a narrowing of the tube, resulting usually from simple inflammatory thickening or malignant disease, and characterized by difficulty in deglutition, especially of solids. It is more frequently met with in men than in women, and usually occurs in early life. It is not infrequent among children, and a few congenital cases have been observed. Those strictures resulting from swallowing hot or acrid fluids are usually found at the upper part of the tube, just back of the cricoid cartilage. Next in frequency is the lower portion of the tube, near the cardiac orifice of the stomach. The stricture may be single or multiple. Usually not more than one or two inches of the tube is involved, and the obstruction may be slight, or so great as to almost occlude it. When a stricture has existed for a considerable time, the œsophagus above it is apt to be dilated, as the result of detention of food and fatty degeneration of the muscular walls. If the stricture is very close, the œsophageal walls below it are usually found to be atrophied.

Though the disease is occasionally spontaneous, or results from simple inflammation, or possibly from causes that cannot be ascertained, it is usually of traumatic origin in early life, but generally of a malignant nature when found in those past fifty years of age. Most frequently the stricture results from swallowing hot or acrid fluid accidentally, or with suicidal intent, but there is a considerable number of cases in which neither accident nor symptoms of acute or chronic inflammation can be remembered by the patient. These are said to be of spontaneous origin. It is probable, however, that in most or all of these cases a history of inflammation would be present if the patient's memory were unfailing. Rarely, cases may be of syphilitic or tuberculous origin, and exceptionally, the disease may be rheumatic.

The first symptom of the disease is difficulty in deglutition, which may come on suddenly and last only during a single meal, or may continue for two or three days. Usually, this symptom then disappears for a time, but returns after a few days or weeks. The intervals become shorter and shorter and the attacks longer, until finally the obstruction is constant. The dysphagia is first experienced on attempting to swallow hard or solid boluses, but as the disease progresses it becomes more and more marked, until the patient has to live entirely on liquids, and finally, in extreme cases, even these cannot be swallowed. Frequently spasm is excited on attempts at deglutition, and the food may be at once regurgitated. As the contraction becomes narrower and the œsophagus above it dilates, food may pass part way to the stomach, and remain there for several hours before it is expelled. In such cases the extent of dilatation may be estimated by the amount of food regurgitated. When the disease is of malignant origin, the food expelled is frequently found more or less coated with blood or pus.

In the malignant cases dysphonia and more or less dyspnœa are usually present, at some time during the course of the disease, as a result of pressure on the recurrent laryngeal nerve, and consequent paralysis of the vocal cord. If paralysis of the abductor muscles become sufficient, dangerous, or even fatal, dyspnœa will ensue, unless tracheotomy is performed.

In some instances spasm of the œsophagus is a frequent symptom, the patient being at times unable to swallow anything, whereas, at other times, he can swallow without much difficulty. Pain is often experienced on deglutition of solid masses, especially where the disease is of a malignant character. A sense of pressure on the lungs is sometimes complained of, emaciation occurs, and owing to insufficient supply of nourishment the patient becomes weak and nervous, and is easily exhausted.

Diagnosis.—A thorough examination with the laryngoscope may enable the physician to exclude diseases of the pharynx, or to discover paralysis of the vocal cords. By auscultation during deglutition of fluids, a gurgling sound may be frequently detected over the stricture, due to the passage of bubbles of air.

Stricture of the œsophagus may be distinguished from tuberculous laryngitis by the constitutional symptoms, by the pulmonary symptoms and signs, and by inspection of the larynx. The pain during deglutition is much greater in tuberculous laryngitis than in stricture of the œsophagus, excepting perhaps when the latter is of a cancerous nature.

Tumors of the larynx or pharynx, and some of those of the œsophagus, may be readily detected by laryngoscopic examination. Other tumors of the œsophagus may usually be detected by the passage of the œsophageal bougies.

Spasmodic stricture of the œsophagus frequently causes quite as much difficulty in swallowing, at least for a time, as in organic disease. The symptoms are not so very different from those of the latter, but in the former a large-sized œsophageal bougie may be readily passed into the stomach. The difficulty in deglutition in the spasmodic affection comes on suddenly, lasts for a short time, and then entirely disappears, to recur again possibly after weeks or months; whereas the symptoms of the organic disease steadily increase in severity without cessation, though they are subject to exacerbations.

The existence of a stricture may often be suspected or determined by consideration of the history; and this impression may possibly be verified by inspection or palpation with the finger, or by auscultation over the œsophagus while the patient swallows fluid. But the most exact method of diagnosis consists of passing bougies or probes into the œsophagus. This should be done in all cases before making a diagnosis, excepting when there is reason to fear ulceration or great weakening of the œsophageal walls, as in some cases of malignant disease. In making this exploration, the instrument should, if possible, be carried carefully through the contracted portion and into the stomach, in order to determine whether more than one stricture exists. By the size of the instrument which can be passed, we ascertain the calibre of the stricture, and by the amount of resistance we can form some estimate of the nature of the tissues causing the obstruction. Great care should be used in the examination, especially when there is fear of malignant disease, or when there may possibly be ulceration of the œsophagus; otherwise the tube may be torn, and a dangerous accident result. The instruments recommended for the purpose are ordinary soft catheters or bougies, graduated œsophageal dilators of the same material as the flexible English ca-

[1] Read before the Illinois State Medical Society, May 8, 1890

theter, olivary bougies attached to a whalebone stem, and instruments consisting of a combination of soft with hard rubber. I generally employ in children the ordinary soft bougie with a tapering, bulbous point, and for adults a long whalebone stem to which is attached an ivory olivary body. These olives should be conical at both extremities, otherwise it has happened that an instrument that has been passed through the stricture could not be removed without great difficulty. The surgeon should be careful that the olive is firmly fastened to the stem.

Prognosis.—Non-malignant strictures sometimes progress very slowly, and the patient may live for years before succumbing to the marasmus which will finally result from a deficient supply of food. Malignant strictures are fatal usually in from eight to eighteen months. Cases resulting from burns, scalds, or the ingestion of acids are generally incurable, and necessitate an unfavorable prognosis, because of the tendency to dilatation of the œsophagus above the stricture, and finally ulceration, abscess, or gangrene. The prognosis is comparatively favorable in most cases where the stricture is not very narrow, and has resulted from catarrhal inflammation or indeterminate causes. If, however, the condition has been neglected for a long time, so that the hypertrophied muscles have undergone fatty degeneration, and the tube has become dilated, the prognosis will be much less favorable, though, occasionally, patients live for many years, even with large pouches from the walls of the œsophagus. In fatal cases death may result from an abscess caused by a pressure of food above the stricture, or from pulmonary or other diseases, or from gangrene, resulting from the reduced condition of the system.

In spasmodic stricture the prognosis is favorable if proper treatment is adopted, but, as will be illustrated by cases to be reported, the patient may be reduced to an alarming condition if this is neglected, and I have no doubt that some die for want of surgical interference.

Treatment.—In the treatment of this disease, nourishment that can be easily swallowed must be provided for the patient, and during exacerbations, or when the stricture is very close, nutritive enemata must be employed. Whenever obstruction to deglutition exists, the œsophagus should be carefully examined, and if found to contain a foreign body it must be removed, or, if this is impossible, it should be forced into the stomach. Abscesses pressing on the tube should be evacuated if possible; or, if a tumor is found, its removal should be attempted by forceps, snare, or œsophagotomy.

The iodides are valuable when the disease results from rheumatic or specific inflammation, but in any other case they do little if any good. In malignant cases, arsenic is recommended for its supposed specific effects, and opium must be given in sufficient quantities to relieve pain. In all other cases, and occasionally in the malignant, the most important treatment consists of mechanical dilatation of the stricture. This may be done by interrupted dilatation with bougies of varying size; by internal œsophagotomy and subsequent dilatation; or by electrolysis. External œsophagotomy and subsequent dilatation has also been practised with success in some cases. Internal œsophagotomy is usually considered a hazardous operation, because of the danger of hemorrhage or perforation of the œsophagus. However, this has been successful in a few cases.

Dr. J. O. Roe, of Rochester, has reported three cases successfully treated in this way, nevertheless the method is not in favor with surgeons. External œsophagotomy is indicated in extremely rare cases only, in which the stricture occupies the portion of the œsophagus which can be easily reached, and usually only in those cases in which a foreign body must be removed by an external incision. In the malignant cases external œsophagotomy or gastrotomy have been recommended when there is some special reason for prolonging life a few days, but the average duration of life is only one month in cases which recover after such operation for cancer.

Electrolysis has also been considered a dangerous procedure on account of the proximity of the pneumogastric nerve. However, recent reports of a number of successful cases will stimulate further experimentation in this direction.

The safest method of treatment, and one that has the sanction of age, is by gradual, interrupted dilatation. For this purpose I use soft bougies with tapering and bulbous tips, varying in diameter from 7 to 10 mm., or ivory olivary bodies, conical at both extremities, which may be screwed firmly to a whalebone handle. I have of these a series of eleven, varying in diameter from 8 to 22 mm Dr. Roe, of Rochester, has invented an œsophageal dilator with a conical tip of soft rubber, which is continuous with a hard rubber base, this being attached to a whalebone stem. This would seem to be an excellent instrument, especially in cases of tortuous strictures where it is sometimes very difficult to pass the olivary bougie. Dilatation has also been practised by passing a thin rubber tube into the stricture and then inflating the tube with air, water, or mercury. Caustics have also been recommended for destruction of the cicatricial tissue, but great care is necessary in their use, and upon the whole they are of doubtful utility. The cure of a case by dilatation often requires a long course of treatment, of from six to eighteen months, but when the difficulty in swallowing solids has only existed a few months or a year, the dilatation may sometimes be completed within a month.

In performing this operation a medium-sized bougie should first be selected to locate the stricture, then smaller ones should be tried until one is found that can be easily passed. The next size larger should then be passed, and this followed by a still larger one, if it does not give the patient too much pain. After three or four days the operation should be repeated, beginning with the next to the largest passed at the last sitting, and following it with the next two larger. This treatment is to be continued at regular intervals until the opening in the œsophagus is sufficiently large, excepting that if inflammation arise, so that the treatment causes considerable pain, the dilatation should be suspended for a few days. Having obtained a sufficient dilatation, the patient must be taught to pass the bougie himself, and should be instructed to introduce it at least once a week for a number of months, and once in two weeks for several months longer. To introduce the bougie, the patient should be seated in a firm chair and given to hold a basin partly filled with water, ostensibly that he may be ready in case of vomiting, but really to prevent him from throwing up his hand to catch the instrument or the arm of the surgeon. Then the bougie having been oiled, the forefinger of the left hand is passed well over the back of the tongue, and with it the bougie is guided into the œsophagus. The instrument will usually pass much more easily at one side of the throat, and will seldom go down the median line. Very little force must be employed in introducing the instrument, never more than two or three pounds pressure being made. The bulb, having been passed slowly through the stricture, should be drawn back into it again and allowed to remain there as long as the patient will tolerate it, which will be for only a few seconds.

Internal œsophagotomy is practised in essentially the same way as internal urethrotomy.

Renewed interest in the electrolytic treatment of strictures of the œsophagus has been excited by the report made by Dr. A. Fort, of Paris, of 19 cases treated by this method; 8 of these were of fibrous character, and after a treatment varying from nine to thirty days, 7 of them have been cured so that bougies from 18 to 20 millimetres in diameter could be readily passed and food of all kinds could be easily taken. The remaining eleven were of a malignant nature and of course were not cured, though they had been much benefited by the treatment and life considerably prolonged. The method, as employed by Dr. Fort, consists in the introduction of a bougie carrying a platinum electrode, which is attached to the negative

pole of the battery, the positive pole being applied over the epigastric region. Through this a current of from fifteen to thirty milliampères is passed, and the electrode is left in position as long as the patient can bear it, which varies from thirty to one hundred and fifty seconds. After removing the electrode, an œsophageal bougie is introduced, one or two millimetres larger than the one that could be originally passed. This treatment is repeated at three or four sittings, it being thought best to proceed slowly in order to avoid accident. Thus far, no hemorrhage or lesion of the walls of the œsophagus has occurred, and the results have been so satisfactory that the method will doubtless be tried by many other surgeons. A brief report on this method is found in the *Journal of Laryngology and Rhinology* for March, 1890.

In my records I find the histories of 26 cases of this disease which I have seen in private practice. I have also seen a considerable number at the dispensary. From these I have selected to report a few that illustrate various interesting points in the history or treatment of this disease.

CASE I. *Malignant Stricture.*—M. A——, aged fifty-nine. The patient gave a history of gradually increasing difficulty in swallowing, which had begun sixteen months previously. For five months he had been unable to attend to his ordinary duties. He complained of some pain about two inches to the right of the sternum, upon the level with the second rib. There was an anxious expression of the countenance, and he had emaciated until his weight had been reduced from one hundred and seventy-five to one hundred and twenty-three pounds. His tongue was clean, he had a good appetite, but was unable to swallow solid food. There was no hereditary history of malignant disease. The heart and lungs were normal. On attempting to pass an œsophageal bougie, I found the stricture three inches below the opening of the œsophagus, through which I could not pass even the smallest olivary body, which measures eight millimetres in diameter. Diagnosis, malignant stricture of the œsophagus. As a forlorn hope the patient was given iodide of potassium. However, the treatment proved of no avail. He lived about twelve months afterward, making the duration of the cancer in this particular case twenty-eight or twenty-nine months, which was fully a year longer than usual.

CASE II. *Malignant Stricture.*—Mrs. P. F——, aged fifty-one, was sent to me by Dr. Best, of Arlington Heights, Ill. She has been troubled with difficulty in swallowing for two years. For the last five months she had found it impossible to swallow any solids, and had suffered severe pain even on attempts to swallow fluids, portions of which often regurgitated through the nose. The doctor informed me that since her trouble with swallowing began, she had suffered from an abscess of the larynx, which had opened externally. For many months there had been some cough and hoarseness. She had been subject to asthma ten years, but had never presented any symptoms or signs of tuberculosis. Her mother was subject to asthma, but there was no other history of hereditary disease. The patient was weak and emaciated, and had a temperature of 100° F. Pulse full, 88 per minute. She said her appetite was good, though she was unable to swallow. Upon examination of the chest I found no evidence of pulmonary disease. Upon examining the larynx I found it congested, the arytenoids somewhat swollen and their posterior surfaces ulcerated, but there was none of the appearance so commonly found in laryngeal tuberculosis. Owing to the evident nature of the disease, I made no attempt to pass an œsophageal bougie, and could only recommend palliative treatment. I suggested for this purpose the application, once or twice daily, of a pigment containing four grains of morphia, thirty grains each of tannic acid and carbolic acid, four drachms of glycerine, and enough water to make one ounce. This pigment I have often used with benefit in tubercular laryngitis, and I have sometimes found that it gives great relief in cancerous affections. This case illustrates the close resemblance which this disease sometimes bears to tuberculosis.

CASE III. *Stricture with Dilatation of the Œsophagus.*—P. D. G——, aged thirty-seven. This patient came to me from New Mexico, complaining of having had difficulty in swallowing for the last ten months. He was still able to swallow solids if he used great care. Usually the food lodged when part way down the œsophagus. He had lost fifteen pounds of flesh in the last four months. Although the patient readily answered all questions, careful inquiry could not discover any history of syphilis, therefore I think he had never been infected. No cause for the trouble could be discovered. In attempting to pass a bougie it became caught in a dilated pouch about three inches below the orifice of the œsophagus, and I was unable to get it farther. A No. 17 American catheter passed through the stricture. The patient was given ten-grain doses of iodide of potassium, but was unable to take it; the dose was reduced to five grains, and he was given also one twenty-fourth of a grain of chloride of gold and soda three times a day. I saw him only three or four times, and at the last visit found his power of swallowing had been considerably improved.

CASE IV. *Stricture and Polypus.*—H. E——, male, aged eighty-two, came to me from a neighboring State. He had been troubled with difficulty in swallowing for several years. He told me that two or three years before he had coughed up a polypus about three-fourths of an inch long by one-half inch in diameter, and that subsequently there had been no trouble in deglutition for some time; but recently the difficulty was gradually returning. He had a hacking cough but no difficulty in respiration, and the general health appeared good, for one of his age. I had no difficulty in passing a bougie twelve millimetres in diameter, but could not pass the next size larger.

Diagnosis.—Stricture of the œsophagus near the upper portion. No treatment was adopted, owing to the patient's inability to remain in town.

CASE V. *Spasmodic Stricture of the Œsophagus.*—B. C. H——, male, aged thirty-two, came to me from Central Wisconsin. He had complained for four months of a raw sensation in his throat, and, for a year, of soreness when eating at the cardiac orifice of the stomach. During this time he had been unable to swallow solids of any kind. He stated that much of his food passed down almost to the stomach, where it lodged and remained for some time, and was then gradually regurgitated, but that whenever any passed into the stomach it caused pain in the region of the lower end of the œsophagus. The patient was weak and anæmic, and had lost nearly sixty pounds of flesh. Pulse normal, temperature 99⅘° F. Appetite and digestion good. There was no evidence of pulmonary trouble, and there was no history of hereditary disease. I found spasmodic contraction of the œsophagus at the cardiac orifice of the stomach, but had no difficulty in passing the largest-sized bougie, 22 mm. in diameter. I thus demonstrated to the patient that he was able to swallow solids of any kind, and by the dilatation relieved the tendency to spasm. I gave him Allen's extract of cannabis indica, one-fourth grain, brucia, one-sixteenth grain, and dextro quinia, two grains, to be taken one-half hour before each meal, and ordered fifteen grains of bromide of potassium to be taken four times daily in water. He returned to his home, and a few weeks later I heard that he had entirely recovered.

CASE VI. *Spasmodic Stricture with Slight Fibrous Stenosis.*—H. W. G——, aged twenty-nine, butcher. The patient informed me that he had difficulty in deglutition for the last two years, and that it had become very annoying of late, so that he had to live mainly upon fluids. He did not complain of any pain, but simply of a distressed feeling when trying to swallow. There was an anxious expression of countenance, and he had lost twenty pounds in weight. The pulse was normal, and the temperature 99° F. His father had died of consumption, but there

was no other evidence of hereditary disease. His tongue was coated, but the appetite was good and the digestion normal. From the history, I concluded that there was a stricture of the œsophagus, but I found no difficulty in introducing a large-sized bougie 20 mm. in diameter. This, however, caused some pain. Upon the next visit I introduced my largest bougie, 22 mm. in diameter. The patient was given dilute phosphoric acid and quinine, and subsequently the bromide of potassium. The difficulty in swallowing was cured by the introduction of the largest bougie.

CASE VII. *Spasmodic Stricture with Slight Fibrous Stenosis.*—Mrs. B. C——, a frail little woman, aged thirty-eight, came to me from Minnesota, complaining of having had difficulty in swallowing for six months, and being unable to eat solid food. She said that six months previously she had taken a severe cold, and that a physician had made a very strong application, since which time her throat had always felt badly. She attributed the whole trouble to the application, though doubtless it was the result of the cold. She was weak, emaciated, and anæmic, but had a good appetite and good digestion, though she could not swallow solids. There were no signs of pulmonary disease. The passage of an œsophageal bougie, 15 mm. in diameter, gave her considerable pain, and was followed by two or three drops of blood the first time. I repeated the dilatation two or three times and gave her tincture of iron, in doses of from ten to fifteen minims, three times daily. She was also given small doses of belladonna and nux vomica. Four weeks later she left the city, greatly improved in her general condition and cured of the œsophageal trouble.

CASE VIII. *Fibrous Stricture.*—T. V. A——, aged sixty-two. This patient came to me in 1884, having had difficulty in swallowing for ten or twelve years. For the past five years he had found it always necessary to have water at hand to wash down solid food. He knew no cause for the disease, but related that when a boy he was subject to frequent rheumatic attacks, and that late in life he had frequently experienced symptoms of gout. The patient, who was a retired physician, thought the disease might be hereditary, as his brother and one niece seem to have been affected in a similar manner. His father and one or two brothers had suffered from gout, but there was no history of other hereditary disease; the patient had suffered from a severe attack of neuralgia about four months previously, and at that time had lost twenty or twenty-five pounds in weight. But this did not seem to be in any way connected with the stricture. He was obliged to live mainly upon fluid food. Upon attempting to pass the œsophageal bougie, I found a long, tortuous stricture opposite the fourth dorsal vertebra, through which it was impossible to pass my smallest olivary body, though I succeeded in introducing without much difficulty an elastic bougie 6 mm. in diameter. Three days later, I introduced one 7½ mm. in diameter, and nine days later one 10 mm. in diameter. The patient shortly afterward had an attack of gout, and the treatment was not resumed. I have occasionally seen this patient on the street during the last six years, appearing about the same as at the last treatment, and I understand that the difficulty in swallowing has not greatly increased. This case is specially interesting because of the existence of the disease in other members of the family, and because of its long duration and the age of the patient.

CASE IX. *Membranous Stricture.*—One of the most curious cases of stricture of the œsophagus which I have ever met, was that of a woman about forty-six years of age, who came to me complaining of having been unable to swallow solids for three or four years; she knew of no cause for the trouble. Upon passing the œsophageal bougie, it came to an obstruction about three inches below the upper part of the larynx, but as I made gentle pressure upon it, something which had the feeling of being a thin membrane suddenly gave way and the bougie passed easily into the stomach. I saw her about a week later, and found that she was completely cured.

CASE X. *Fibrous Stricture.*—S. O. W——, aged thirty-nine; sent to me by Dr. Bass, of Pullman, Ill. The patient complained of difficulty in swallowing, particularly of solids, which had annoyed him for a year and a half. It was attended by slight pain, referred to the left side of the trachea. The trouble had come on gradually but had steadily increased, until it gave him great annoyance, and his weight had been reduced from one hundred and forty-five to one hundred and twenty-five pounds. There was no evidence of hereditary disease, or of syphilis, and the patient could assign no cause for the trouble, excepting a severe exposure three or four years previously. I found a stricture at the upper part of the œsophagus, through which I passed with some difficulty a bougie measuring 12 mm. in diameter. I saw the patient on an average of once a week for five weeks, and gradually increased the size of the instruments used, until finally, I could introduce without great difficulty one measuring 19 mm. in diameter; and the patient could swallow solids with but little difficulty. He continued in this condition until I lost sight of him, about a year later.

CASE XI. *Fibrous Stricture.*—A. A——, male, aged three years and nine months. This little patient was sent to me by Dr. Wheeler, of Latham, Ill., with a history of having swallowed concentrated lye about two and a half years previously. Since then he had been unable to eat any solid food. During this time he had, on several occasions, attempted to swallow solids, but each attempt had been followed by complete closure of the œsophagus, which had lasted for from two to nine or ten days. During these, so-called, spasms he was unable to swallow liquids. Notwithstanding this, the child was well nourished. I found the stricture three inches below the superior opening of the œsophagus, but I was unable to pass even the smallest bougie. As the child was doing well, I recommended that the parents continue the liquid nourishment, and wait until it was older before an attempt at radical treatment should be made.

CASE XII. *Fibrous Stricture.*—D. B——, male, thirty years of age. This patient came to me from Wisconsin with a history of gradually increasing difficulty in deglutition, which had prevented him from swallowing solid food for several months. He could assign no cause for the trouble. Upon examination, I found a stricture, about three inches below the upper portion of the larynx, which would admit only one of the smallest-sized bougies. This stricture I gradually dilated as already described, every three or four days for about four weeks, when the largest-sized bougie could be readily introduced and swallowing was accomplished without difficulty. The patient was then taught to introduce the bougie himself, and was directed to do so at least once a week for several months. He returned to his home and a complete cure was effected.

CASE XIII. *Fibrous Stricture.*—Mrs. E. M——, fifty nine years of age, was sent to me by Dr. J. R. Jones, of Emporia, Kan. She stated that six months previously she had suddenly found it impossible to swallow solids, and that ever since that time meat could only be swallowed with great difficulty. When the attack first came on, she had been unable to swallow even fluids for three days, but all food taken into the œsophagus had been shortly after regurgitated. Subsequently she was comparatively well for several weeks, when another attack like the first came on and lasted for five days. She then remained comparatively well until three weeks before consulting me. I found no history of hereditary disease. The patient was weak and emaciated, having lost nearly forty pounds. The skin was pale and sallow, and there was some œdema about the ankles. There was no fever, and the pulse was only ninety per minute. She had never suffered any pain from the disease. The appetite and digestion were good. I found a stricture at the cardiac orifice of the stomach, which would admit a bougie of only 11 mm. of diameter. At her next visit, I introduced first a bougie of 11 mm. in diameter, and then one

of 13 mm. On the following visit the same instrument was used, and on the succeeding visit one of 13 mm. and subsequently one of 16 mm. was passed. She could then swallow very much better, but as she was unable to remain in the city, the subsequent treatment was delegated to her home physician. Have never learned the result.

THE STATUS OF PICHI AS A REMEDY IN GENITO-URINARY DISEASES.

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THE history of the earliest trials of a new drug, and of its subsequent growth in popular favor, is no less instructive than interesting, for it is determined by many conditions other than the inherent merits or demerits of the drug itself. It will be shaped by the character of the claims under which the article is first presented as compared with its actual properties; by the degree of naturalness or the amount of artificial stimulus attending its introduction; by the amount of preliminary study of the physicians who experiment with and report upon it, and, above all, by the degree of uniformity in the preparations which supply the basis of judgment during the first few years of its career. Thus, to the thoughtful observer, the history of the drug becomes at the same time an exponent of the medical and pharmaceutical tendencies of the times, and a mirror in which are displayed scientific precision and professional intelligence and skill, or the reverse of these qualities. As a result of the variable nature of these conditions we find the early history of almost every drug presenting an alternating series of successes and failures, of eulogies and condemnations. Thus with the discovery of the valuable properties of cocaine, there appeared an avalanche of recommendations for its use in almost every class of diseases. It seemed for a time as though no application of it were left untried, and, according to the reports of the experimenters, more or less benefit resulted in nearly every case. Others, unbiased, and attempting to verify the reports, were disappointed, and there quickly followed an equally voluminous mass of denial and condemnation, a wave of reverse threatening to almost drive cocaine out of consideration as a therapeutic agent. Later a reaction took place, and so, after various oscillations, the real scope and application of the drug became at length established. Similarly the early reports of the powers of sulfonal were roseate in the extreme; and one who had not been through the same experience many times before, might have inferred that our entire list of hypnotics was to become lost sight of in the merits of this new claimant to favor. It was prompt in action, its sleep was a natural one, not followed by any unpleasant symptoms; it was eminently safe, tasteless, and convenient of administration, and, in short, possessed not a single qualification in which it did not show its superiority to all other agents of its class. But soon we found that it was not prompt in its action, nor always certain; that the sleep which it produced and the results which followed differed greatly in different individuals and in different states of the system; that its solubility was very slight; that it was not so free from disagreeable taste as had been represented; and, above all, that it was highly dangerous, and that numerous fatal accidents had been encountered in its administration. At the present time, therefore, sulfonal is under a heavy cloud, from which we expect soon to see it gradually emerge with the explanation that the principal cause of accidents is to be found in ignorant or careless administration.

In encountering one or another of such adverse conditions, pichi has proven no exception to the general rule; and as I was the first to call the attention of American physicians to the remedy—this being done, I may say, independently and ignorantly of its almost simultaneous introduction into France—I have taken unusual interest in following all the details of its several vicissitudes, and have been greatly gratified with the steady manner in which, on the whole, it has made its way to a permanent and growing field of usefulness. The first notice of it in English, so far as I know, was my paper in the *Therapeutic Gazette* of December 15, 1885, p. 110, entitled "The New Chilian Drug 'Pichi.'" In that paper I presented as its probable range of action, 1. The relief of chronic renal congestion without organic degeneration. 2. Of catarrhal inflammation of any portion of the genito-urinary tract, no reference being had to gonorrhœa. 3. A stimulant to digestion and a hepatic stimulant.

I was careful at the same time to point out that it would probably prove injurious in kidney diseases where there was organic change, and to disclaim any belief in its reputed power to remove calculi. I was also careful to indicate the active portion of the plant, and the strong possibility that other portions would be used, and with disappointing results. My reason for this opinion was the fact that, according to the barbarous customs of the country, the shavings of the wood were commonly used, tumblerful doses of the decoction being swallowed. I appreciated the fact that should any considerable demand for the drug arise, it would be obtained through commission-houses, who would purchase it directly from the natives, they in turn collecting it according to their own customs, and that we should have, as a result, a commercial product prepared almost wholly from the wood, which could not be effective except in great doses, and which being used, as was certain to be the case, in doses proper for the preparation from the active portion of the plant, must necessarily result in disappointment. This opinion, as will be seen farther on, has been unhappily justified to a most unusual degree.

The first physician to experiment extensively with the subject of my sketch was Dr. Hal C. Wyman, of Detroit, who found that it produced complete cures in almost every case of cystitis following surgical operations upon the urethra, rectum, or uterus, at the same time curing, in several cases, a chronic cystitis which had long preceded the acute attack for which treatment was instituted. His favorite prescription was:

℞. Fl. ex. pichi..... ʒ j.
Potass. nitrate..... ʒ j.
Simple elixir..... ʒ iij.
M. S.: Teaspoonful once in two hours.

The next report upon it came from Dr. A. Rodriguez, of Buenos Ayres, who found it especially valuable in inflammation of the bladder caused by the mechanical irritation of calculi. He also found that he had been able in many instances to cause the dislodgement and expulsion of calculi small enough to pass through the urethra. He had in addition found it of marked value in the treatment of jaundice and dyspepsia due to deficient biliary secretion. It is important to note that this gentleman administered from two to three ounces per day of the fluid extract. There is little doubt that the preparation here referred to was of the native drug, consisting largely of wood, as this amount of the fluid extract of the leafy tops would have proven highly injurious to his patients.

The next important notice that we find of the action of pichi is in the report presented by M. Limousin, at a meeting of the Therapeutical Society at Paris, in which he expressed the opinion that the resin contained in the drug possessed the power of dissolving the mucin holding together the parts of the calculus, and thus tending more or less to disintegrate it. This statement was confirmed by M. Dujardin-Beaumetz, who was present.

Dr. H. S. Delamere (MEDICAL RECORD, November 12, 1887) next presented a communication showing its great value in the treatment of cystitis following gonorrhœa.

Dr. A. G. Ward (*Medical Age*, 1887, p. 229) reported on its value in an obstinate case of pruritus vulvæ accompanying vesical irritability.

Dr. J. H. De Wolf, of Baltimore (*Medical Age*, 1887, p. 249), concludes from clinical trial, 1, that pichi is a diuretic; 2, that it is a urinary sedative.

In the *Therapeutic Gazette*, 1888, p. 240, Dr. J. H. Tressel reported painful gastric disorders produced by the use of excessively large doses of the fluid extract of pichi. At the same time he reported benefit from its use in cystitis accompanying renal congestion as the result of a cold.

Dr. Peyton Greene (*Therapeutic Gazette*, 1888, p. 368) reported success in the treatment of chronic cystitis, and in cystitis following childbirth. He also expressed the opinion that its lithontriptic action would seem to consist rather in its action as an antilithic than as a solvent.

Dr. George Chaffee (*Medical Age*, 1888, p. 82) was the first, so far as I know, to report favorably upon its action in the treatment of hæmaturia renalis. In this case the symptom was the result of Bright's disease, and was unusually severe, several times threatening the death of the patient, and relief was in all cases promptly obtained by the administration of pichi. The doctor's opinion was thus expressed: "Although pichi is not recommended in organic diseases of the kidneys, I sincerely believe that since November 10th I have carried this patient along, and stayed the progress of his disease as well, if not better, with pichi than I could with any other remedy with which I am acquainted."

In the *Medical Age*, 1888, p. 313, Dr. Oscar S. Armstrong, reporting upon a number of important cures of chronic cystitis, refers particularly to the reduction of inflammation believed to have been caused by the induction of abortion.

In the *North American Journal of Homœopathy* for 1888, Dr. Knight presents a report on its action from the standpoint of the homœopathist. His method was the administration of two to four drops every two hours, or ten drops four times daily. In these doses he found that it produced the best results in allaying a tendency toward a hypersensitive condition of the bladder and urethra bordering upon a true inflammation. Its diuretic action he found to be slight. He had not yet observed any effects in the treatment of cases showing a lithæmic condition, and concluded that an insufficient time had as yet been allowed.

To these I might add a report, given me verbally by my friend Dr. Laurence Johnson, of New York, who found that it increased the severity of acute gonorrhœa. As a result of his trials of it in various conditions, he believed that its greatest value was in overcoming chronic indigestion.

The above are selected from more than one hundred published reports which I have collated, not as being specially favorable, but merely as indicating special features of the therapeutic action of pichi. In the meantime great numbers of reports were published of cases, of which the above may be considered as types, and almost invariably confirmatory of the favorable conclusions therein reached. Without presenting the details of these reports, I may draw from them the following generalizations:

In the treatment of acute cystitis following surgical operation, childbirth, gonorrhœa, or accompanied by acute congestion of the kidney, relief was prompt and strikingly marked, without any published exception except one. In such cases its action corresponds somewhat to a combination of henbane and buchu.

In the treatment of chronic cystitis relief was customary and a cure frequent, the results being probably as good as can be anticipated in chronic diseases, where a neglect of treatment or of its regularity is the almost invariable rule.

As an antilithic, its use very rarely resulted in disappointment. As a lithontriptic it was the fortune of the remedy to meet with its chief reverses. Although in the original references to this action, the language had been carefully guarded against the possibility of misconstruction, yet such misconstruction actually occurred. At the same time, reports in French literature, which were not so conservative, were freely copied, and many attempts at the expulsion of calculi were made, resulting, of course, ordinarily in failure. Notwithstanding the fact that pichi occurs freely in the urine, and is readily enough detected there by its strong odor, yet it must be in such a dilute condition as to produce but little effect in the dissolution of calculi, and any attempt to increase the amount sufficiently to produce such an effect would be ruinous to the stomach and to the general health of the patient. What might be accomplished by urethral injections of a strong solution is not known. So far as I am aware, no experiments have been made in this direction. The failures, however, have resulted chiefly through an unintelligent method of trial. There is abundant evidence leading to the conviction that small calculi are very frequently dislodged and carried away as a result of free treatment with pichi; and there is a prominent practitioner in Louisville, who has quite a large vial filled with these small calculi, which he claims to have removed by the aid of pichi alone.

I hope to be able, during the summer, to present a report of some original investigations of the power of the resin of pichi to dissolve calculi.

The original statements concerning its effect in chronic Bright's disease now require to be accepted with some modification. Notwithstanding the fact that the amount of albumin is often increased, there are a number of cases in which unquestioned and great benefit has resulted in the treatment of this form of disease by pichi; and it is very possible that later and more scientific investigations will show us in just what class of cases of chronic Bright's disease it can be used with advantage.

In the treatment of hæmaturia, particularly, many fortunate results have been reached. At least half a dozen cases have come to my personal knowledge, where our most distinguished practitioners had failed in their application of the ordinary remedies, and in which complete relief was afforded by the administration of pichi. In one of these cases the patient, himself a prominent physician, had previously returned from treatment in Europe as the result of which all hope had been abandoned.

But little systematic attention also has been given to the effects of this drug upon the liver, and yet there is in the reports sufficient evidence to show that there are rich results in store for some practitioner who will patiently investigate its action in this direction. The treatment of dyspepsia and indigestion by this remedy is also an excellent field for clinical research.

One serious objection to the remedy had frequently been urged, namely, its very disagreeable savor; but this was happily overcome by the use of a solid extract encased in gelatine capsules. Another was its tendency to overset the stomach on continued administration; and this was overcome by pushing it for a few doses, and then ceasing the administration for a short time.

The foregoing portion of this paper relates to the early history of the drug, when, as I well know, the preparations were of the same general character and quality, and before an extensive demand had called forth heavy importations of carelessly collected supplies. The uniformly favorable results which I have indicated are amply sufficient to establish the drug as an exceedingly valuable therapeutic agent. Yet we are forced to face the fact that, after two or three years of almost unequalled success in clinical work, unfavorable reports began to be recorded, general disappointment ensued, and many of those who were at first most favorably impressed with the results which had taken place under their own hands, came to distrust the remedy, and to wonder that its subsequent effects were not uniform with the earlier ones. The cause for this change is so clear to me that I have been induced to communicate it in the form of a warning, not only in relation to the remedy now under consideration, but as a fruitful and general source of disappointment

which can readily be avoided, and the responsibility for which, if it occur, rests with the practitioner himself.

In my first contribution I was sufficiently explicit in indicating that the constituents on which the activity of pichi might depend, resided in the leaves, the young twigs, and, to a less extent, in the bark, being almost wanting in the wood. In accordance with this information only the small and leafy twigs were collected, and for a long time little else was used in the manufacture of the American fluid extract, and with the excellent results already recorded. But the favorable reports elicited created a great demand for the medicine, both here and abroad, and importers placed large orders for crude pichi. Having myself collected the small twigs of the original supplies, I was fully aware of the tediousness of the process, and did not anticipate a like care in the procurement of commercial supplies; but I had not looked for the absolute carelessness which was actually displayed. The entire shrubs, with a base diameter of five inches or more, were cut up and tied into fagots, a foot, more or less, in length, the leaves, twigs, and bark, representing scarcely ten, or in many cases even five, per cent. of the weight, the remainder being billets of wood.

In the accompanying cuts, Fig. 2, represents about the best samples which could be obtained from one of these bales, the active portion representing about one-tenth of the weight, but there were very few fascicles even so good as this. Fig. 1, on the other hand, represents a first-class sample, such as yielded the preparations which furnished the basis of the favorable reports from which this paper is compiled. To obtain such material, there was only one possible method, namely, to maintain one's own collectors in the region of production, for it could not anywhere be purchased. This condition of supply has been

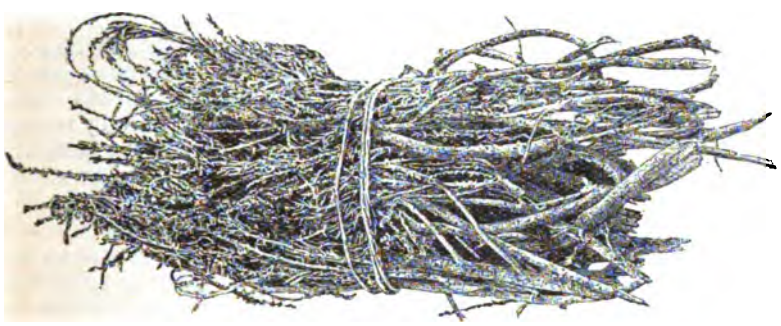


Fig. 1.

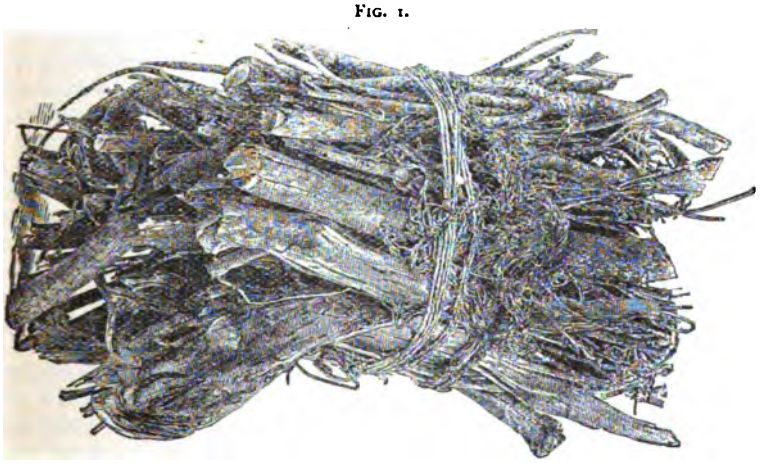


Fig. 2.

in full force up to the present time and still continues. No crude pichi can be purchased either in this country or in Europe, nor even, except through special collections, in its native home, which will not yield a totally distinct preparation from that used in the production of the original favorable results. By far the greater portion of the fluid extract now furnished on prescriptions, possesses a strength only about one-tenth as great as that upon the action of which the accepted dose has been established. How can it be otherwise than that disappointment will follow its use? The fact is sufficiently confirmed by the obviously feeble results communicated by Dr. Knight upon the administration of two to four, instead of fifteen-drop doses, his preparation being, nevertheless, a good one; and such a homœopathic dose is what is being administered by the majority of physicians who prescribe half-drachm doses without assuring themselves that the preparation is from the genuine drug. It is particularly instructive to note, moreover, that in South America, and to a great extent in Europe, where the woody stock is consumed, two and three ounces are given in a day, while here we find as many drachms of a perfect preparation eminently satisfactory. Clearly the occasion of disappointment lies in the carelessness of the prescriber! Many physicians object on principle to specify the preparation upon their prescriptions; but in this class of cases there is no other road to success. Unless the physician satisfies himself that the preparation of pichi dispensed upon his prescription is made from a drug especially collected to order, he need not look for a uniform, and scarcely for a favorable, result. Indeed, it has been a common incident in the history of this drug, that where specifications have continued for a time, and then, through the carelessness born of success, were discontinued, an entirely different product was substituted with an immediately unfavorable result.

PYOKTANIN, THE NEW BACTERICIDE.

By ADOLPH KESSLER, M.D.,

NEW YORK.

Conscious of the fact that this preparation is scarcely known in this country as an antiseptic agent, I consider it my duty to call the attention of the profession to its uses, and to its marvellous efficacy as a pus-destroyer and wound-healer. It is the well-known methylanilin used by microscopists as coloring material in the study and recognition of bacteria, etc., but Professor Stilling, of Strasburg, was the first to employ it as a therapeutic agent in the treatment of ulcers of the cornea, and of other suppurative affections of the eye. Later experiments and observations in Germany proved its great antiseptic virtues in surgical and obstetrical practice, and in syphilitic and cutaneous affections, thus extending its usefulness to the entire domain of the healing art, even to intestinal and other interior ulcerations.

My own personal experience with the remedy is confined to about a dozen cases, but as some of these cases had been under more or less continuous treatment for months, and even years, and had proved utterly intractable under all modes of treatment, and as, moreover, I was rewarded with unexpected and absolutely phenomenal successes by the use of this new remedy, I feel emboldened to express a pretty safe and correct opinion of its value, and the conviction is ripening within me that pyoktanin is the *ideal* antiseptic and pus-destroyer. For, whether we adhere to the theory that suppuration is due to the presence of micro-organisms, or believe with others that it may be entirely independent of bacteria as the result of chemical influences upon the organism, the fact remains that pyoktanin interferes with the causation of suppuration in every form and shape I have thus far met with, sterilizes and aborts the pyogenic matter, and causes rapid improvement, favorable tissue metamorphoses, cicatrization, and healing. Suppurative wounds and old indolent ulcers of long standing show a vast improvement after a few applications of the remedy; chronic purulent discharges cease altogether, and sometimes at once after a thorough exhibition of the antiseptic

over the diseased parts—the microscope even failing to reveal any pus-cells—and intractable ulcerations that have for months and years baffled all treatment with caustic and antiseptic remedies, the highly lauded corrosive sublimate included, assume in a short time conditions most favorable to granulation and cicatrization.

I can, however, better fulfil the object of this paper by briefly referring to two typical cases, which stand out prominently and illustrate in a marked manner the wonderful efficacy of pyoktanin.

A young gentleman with syphilitic ulcerations of the frontal and temporal bones extending to the scalp, with a steady and copious suppuration that had continued for nearly two months without being checked, consulted me on the 13th of this month, as he did not care to follow the advice of his last physician, to go to a hospital and have a radical operation performed. The case looked bad, indeed, but I resolved to try the pyoktanin first before resorting to severer measures. On the 15th, after evacuating and draining off a considerable quantity of clear pus and cleansing the parts, I freely employed a strong solution of the antiseptic all over the ulcerating surfaces, without giving the patient any noticeable pain or inconvenience. This single application produced two surprising effects: A total cessation of suppuration, the scanty discharge being of a purely sanguineous character, and a marked diminution of the pain and tenderness which had heretofore characterized the *locus morbi*. There has been no further appearance of pus since, and under continued daily dressings the patient is making a good recovery, feeling free from pain and vastly improved in health and spirits. As an indorsement of this paper I presented the patient to Dr. Shrady, the able surgeon, and the editor of the MEDICAL RECORD.

A far more important and complicated case is the next one. Mrs. M—— has been partially paralyzed and bedridden for years, totally unable to move about for eighteen months, since which time she has been afflicted with gangrenous dermatitis involving the right foot and leg and part of the left foot, not to speak of decubitus and other painful ailments. All attempts to better the condition of the affected parts had proved futile, and numerous medical attendants had abandoned the hopeless case in utter despair. When I first saw the patient on April 28, 1890, the sad history of the case, as well as the terrible aspect of the affected extremities, filled me with dismay, and I felt at a loss what to do. The whole right foot presented a putrid sloughing mass covered over with a layer of extremely offensive pus, and the slightest movement of either extremity wrung from the patient torments of pain. With the use of aristol and the bituminated iodoform, I obtained a temporary success in improving the condition of the parts and relieving the great suffering, but it proved only a short respite, and the suppuration furthermore continued uninterruptedly.

In this emergency I resorted at last to the use of the pyoktanin, applying it in substance, in form of a large pencil, to every part of the affected extremities, being careful to bring every particle of the sloughing surfaces under the influence of the antiseptic, and the effect of this first application was not only most gratifying, but in every sense miraculous. Within twenty-four hours every trace of a suppuration that had been going on for nearly eighteen months without cessation had disappeared, together with the horribly offensive odor that had accompanied it, and the ulcerating, sloughing tissues were almost magically transformed into a dry, clean, healthy-looking surface, upon which granulations began to form. I repeat this process daily, partly with the solid pencil, partly with a strong solution, and while suppuration, fetor, and extreme painfulness have wholly disappeared, granulation and cicatrization progress favorably, and there is every prospect of such a *restitutio ad integrum* as the constitutional condition of the patient will permit. The highly intelligent husband of the lady, who by long and costly experience has become almost an expert in surgery, assures me that not for eighteen months have the affected parts looked so nice, clean, and promising as at present, and this I can readily understand from the truly wonderful and speedy change they underwent under my own eyes. In using the methylanilin for surgical purposes, care should be taken to employ a preparation free from arsenic.

644 LEXINGTON AVENUE, June 24, 1890.

ARIZONA AS A HEALTH-RESORT.[1]

BY C. L. G. ANDERSON, M.D.

LATE ASSISTANT SURGEON, U. S. ARMY.

THE purport of this paper is to call the attention of the medical profession to the super-eminent advantages which Arizona offers as a health-resort. Arizona is situated in the southwestern corner of the United States, between the 31st and 37th degrees of latitude, and extends from the 109th degree of longitude westward to the Colorado, representing an area of 114,000 square miles.

It is located between the convergence of the Sierra Nevada and Rocky Mountain ranges, and forms the larger portion of the southern extremity of the arid belt in the United States. The territory presents evidences of all the agencies of nature. Fire and water, convulsion and erosion, upheaval and depression, have left their impress upon the face of the country.

Arizona is surrounded by regions equally waterless. The proximity of the Pacific would indicate considerable moisture, but most of the humidity from that source is precipitated upon the western slope of the Sierra Madre Mountains, in Southern California, and what little gets over them is disseminated by the burning sands of the Mogave and Yuma deserts before reaching the territory. The loss of the humidity is compensated for by the protection from the fogs and winds of the California coast.

Our condition of health or unhealth depends more upon the state of the atmosphere than is generally recognized. I believe that the climate of Arizona presents every degree of elevation, temperature, and humidity necessary for restoration and maintenance of health. This claim may not appear so overdrawn if you recall the fact that the territory is fourteen times as large as the State of New Jersey. Let us indicate some of the diseases benefited by climate, and see if we cannot find antidotal conditions for most of this class of ailments within the confines of Arizona. Probably all the bodily functions are modified to a greater or lesser extent by the different factors which enter into the formation of climate, and, as disease is but a perversion of function, it follows that it must also be affected thereby. But it is mainly for diseases of the air-passages that we order a change of climate. Many of the numerous neuroses may be cured or alleviated by finding harmonious surroundings. Some heart troubles are also much benefited by proper climate. Many renal disorders could be treated to greater advantage if we could place the patient under atmospheric conditions where the burden of the excretion of water and salts was thrown upon other organs.

In that large class of diseases where more than one organ is involved—as the heart, lungs, and kidneys—a climate may be found which would produce a compensation and partial interchange of functions.

In the present unformulated state of climatological therapeutics, it is to phthisis alone to which we refer when we speak of climatic treatment, and it is the disease particularly in question in this communication. A fitting climate does more good in this disease than all other treatment combined, perhaps producing in some cases a cure.

Imperial in extent, it is impossible to generalize about Arizona, so we will treat our subject under several heads.

[1] Read at the second meeting of the Washington County Medical Society, Hagerstown, Md., April 9, 1890.

Arizona, like all Gaul, may be divided into three parts:

I. A mountain portion.

II. A valley portion.

III. A plateau portion.

This corresponds to the appropriate classification of the Mexican regions made by Hernando Cortés, into *tierra fria*, *tierra caliente*, and *tierra templada*—cold, warm, and temperate regions.

I. The mountion portion is composed of isolated mountain masses, arising principally from the plateau, representing an elevation of eight thousand feet and upward, and may be dismissed from our consideration, as the conditions of rarefaction and cold are not usually desirable.

II. The Colorado River drains the whole of Arizona, and the general trend of the drainage is toward Yuma, in the southwestern corner of the territory. This being its lowest point, we will enter the territory here and follow the natural rise of the land upward.

The town of Yuma is situated just below the confluence of the Colorado and Gila Rivers. Here

> "Vertical, the sun
> Darts on the head direct his forceful rays,
> . . . . . .
> And Cancer reddens with the solar blaze."

If it is your fortune to reach the place in July, with temperature 112° F. in your stuffy sleeper at midnight, you will surely sympathize with the poor soldier who died here and met with such a cool reception in the other world, and appreciate the appropriateness of the designation *calida fornax*—fiery furnace—applied to this region by Cortés and his companions.

Yuma is about one hundred and seventy-five feet above the sea, with a total annual precipitation of but a few inches. Nevertheless, for eight months in the year the place is inviting enough if you want a warm, dry climate, near the sea-level. However, the valley portion (which comprises the southern half of the territory) has a much higher elevation, the general average being about two thousand feet. Phœnix (1,200 ft.), Fort McDowell (1,800 ft.), and Fort Lowell, near Tucson (2,500 ft.), we will select as typical locations. The meteorological reports from these stations indicate an annual range of temperature of from 30° to 110°, with a yearly mean of 68°. The total rainfall of the valley portion is about eight inches.

Snow never falls here. The soil is sandy and holds no moisture, but artesian borings will reach water in most of the valleys. Natural vegetation, except along the water-courses, is scanty and that of the desert; but where irrigation is applied, almost anything, from oranges to wheat, can be raised.

It is the land of sunshine, fruits, and flowers, and the home of the cacti. Geraniums become tree-like, and heliotropes clamber like grape-vines. Cattle breed all the year. Centenarians are comparatively common among the Mexicans and Indians. I have seen gray-headed squaws whose identity was obscured by as many wrinkles as Haggard's "She."

The air is nearly free from organic matter, and the few microbes present are rendered inert by the lack of moisture. The whole makes up a warm, dry climate, of moderate elevation. It is the best winter home for phthisis that I know of. For those whose hearts or nervous tension cannot stand a higher altitude, it is best the whole year.

Throughout the country are mineral and mud springs which have a local reputation for possessing curative properties.

Southern Arizona is the land of "Mañana," where one can lead a *dolce far niente* existence and not care whether school keeps or not.

"What men call gallantry, and the gods adultery," is not common because the climate is *not* sultry. It is a haven of rest for the society belle and the Wall Street man who have been living on their nerves. The one, in her hammock under the palms, will soon learn to handle her fan and *mantilla* with the indolent grace of a true *señorita*; while the latter will smoke his *cigarro* by the murmuring *acequia* and dream of the days when the fat *padres* ruled the land, while the slaving *peons* tilled the maize and carried in the gold from the mountains.

The three or four summer months are warm, it is true, occasionally reaching 118° or 120° F., but in spite of the temperature, sunstrokes are unknown. The temperature rises so high that the moisture is not able to keep up with it, thereby reducing the relative humidity and making the heat less intolerable and depressing than it often is in our Eastern cities.

Everybody sleeps out-doors during the hottest weather, and the thermometer usually falls enough at night to make sleep refreshing. A mosquito netting is generally sufficient covering, and if you sprinkle it well before using you will probably get through the night very comfortably.

III. Let us now ascend to the plateau region, which is north of the 34th parallel, and, roughly speaking, makes up the northern half of the territory. The altitude varies from five thousand feet to seven thousand feet. The ascent from the valleys is gradual at some places; at others, abrupt, giving at certain seasons Switzerland and the Riviera within a few hours travel on horseback. As we rise the air becomes cooler, and the cacti and mesquite are replaced by juniper and pines. Grass and other vegetation is more abundant. The pulse and respiration are increased, and the lips become dry. There will generally be a little systemic disturbance at first, upon reaching an elevation of six thousand feet, but when one has become accustomed to the new environment he will comprehend the pleasure of mere living. The appetite is increased, and sleep is oblivion. To pass one's entire existence in the effete East is to miss something good in life, and to finally die of crowd-poison. Northern Arizona is a general table-land from which the mountains arise in separate, circumscribed masses. The country is fairly well timbered, and the grass is at times abundant. The drainage of the naturally porous soil is enhanced by the valleys on one side, and the Grand Cañon on the other. Indeed, so perfect is it, that water cannot be reached by means of wells.

The air is bright and exhilarating, and the sun shines nearly every day in the year. The atmosphere is so clear and impalpable that at night

> "The heavens seem as near as our own mother's face is,
> And we think we could touch all the stars that we see."

Whipple Barracks (Prescott) and Fort Apache are both at an elevation of about six thousand feet. The records of the post hospitals at these posts show that the annual range of temperature is from 10° to 90°, and that the mean is 53° F. The annual precipitation will average sixteen inches. There are no well-defined wet and dry seasons. The heavy rains occur monthly in the winter, and the showers in the early summer.

Snow falls during the winter. It does not lie long on the open country, but will last a long time in the shade. The plateau is almost free from the wind and sand storms of the highlands of Colorado.

The researches of Schwann, Budd, Pasteur, Lister, Tyndall, Koch, and numerous others, have demonstrated that, at ordinary levels, the air is full of floating matter, that this matter is mainly organic, and that many of these organisms are the cause of, or intimately associated with, disease. It has also been shown that at an elevation of six thousand feet bacteria are practically absent. Furthermore, experiments in germ-culture teach us that they require a considerable degree of heat and moisture for their development and propagation. Now, in Northern Arizona the conditions are all unfavorable. The coolness, the low degree of humidity, and the high percentage of ozone make up an atmosphere extremely inimical to bacterial life.

The efficacy of rarefaction in some diseases is so well established that we construct ingenious cabinets to relieve the pressure of gravity; here we find nature doing it, and as in everything else, better than man can do. We bottle up oxygen and dole it out to our patients a few minutes a day; here they can bathe in it the whole year long. In fact, the air is a real aseptic and antimicrobic fluid freely invading and preserving every accessible part of the person. The general mortality is less, wounds heal by immediate union without a dressing, and the bodies of dead cattle literally dry up and blow away. I never met a case of phthisis in an old settler, and it is well known that tuberculosis is very rare among the Indians and Mexicans. It is always warm in the sunlight, even during the coldest days of winter.

Although the equability of temperature is not so great as in the valleys, the fall after sunset is more conducive to refreshing sleep, and gives a *tonus* which one does not get in the valleys.

As the low degree of humidity causes the heat in the valley portion to be supportable, so the same absence of moisture makes the cold less intense on the plateau. Perspiration does not collect upon the surface, thereby eliminating that ever-present danger of "catching cold," which is the basis of so many diseases and retards treatment so much.

Bleeders have no business here, as there is a tendency to hemorrhage from the mucous membranes. High-strung, nervous persons cannot stand the stimulating atmosphere. Women, on account of their finer nervous organization, are liable to neuralgia and insomnia. They are apt to suffer from dysmenorrhœa and ovarian pain.

Of course, if a patient is in the last stage of tubercular phthisis his place is at home. Cases not so far advanced, but in whom there is not enough lung-tissue left to breathe at this altitude, should be advised to seek the valleys. But the ordinary cases of consumption, which we usually see in the first stage, can be sent direct to Northern Arizona. If the general health is robust, if there is no laryngeal or bronchial irritability, and if the heart is equal to the added strain, these primary cases can remain on the plateau all the time. The average case, however, will do best by passing the three or four winter months in the valleys.

It is almost impossible to designate the exact points for each patient. Primary cases should be sent to Northern Arizona, and those further advanced to Southern Arizona, and all directed to seek the most favorable places after getting there.

The entire length of the plateau is crossed by the Atlantic and Pacific Railroad, while Southern Arizona is traversed by the Southern Pacific Railroad. Prescott, the capital of the territory, is the gem of the northern climatic zone, and Phœnix and Tucson are rival queens of the valley portion. These are good objective points, and all are reached by rail. Throughout the territory the accommodations for the entertainment of invalids are not so grand as in some other parts of the West, but, I believe, more desirable on that account. There are no mammoth hotels with their thousand guests and gilded cesspools.

If one can live on a ranch, or pass most of his time in the saddle, so much the better. Its remarkable formation and natural wonders, its ancient and mysterious history, and its superior climate, appeal to and stimulate every element of our nature, and make Arizona unexcelled as a health-resort for certain classes of disease.

Italian Dentists Must be Doctors of Medicine.—By a recent decree, everyone who wishes to practise dentistry and "phlebotomy" in Italy must henceforth have taken a legally recognized degree in medicine and surgery. Dentistry will, for the future, be taught in the surgical department of such medical faculties as possess the necessary equipment for the purpose.

THE NEEDLESS PRESCRIPTION OF SPECTACLES.[1]

By H. GIFFORD, M.D.,
OMAHA, NEB.

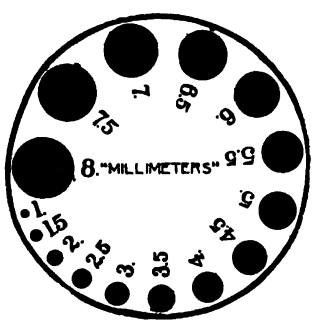
It is a common remark that the number of persons wearing spectacles, particularly at an early age, is rapidly increasing. The complaint is general with the laity that it is hardly possible to visit an oculist without having a pair of glasses prescribed. The oculists, on the other hand, explain that there are good reasons why more people should wear glasses than formerly. The increased use of the eyes which modern civilization demands, besides positively increasing the number of ocular defects, makes such as exist more difficult to bear without correction; moreover, our increased knowledge enables us to correct defects in a way that was formerly impossible, and forces us to correct slight errors which until recently were considered too insignificant to require attention. Valid as these reasons are, the writer is firmly convinced that the correction of slight errors of refraction has been carried to an unwarranted extreme, and that hundreds of persons are every week unnecessarily condemned to the use of spectacles. The observation of the practice of many oculists warrants the idea that in the bald and toothless future which some writers are predicting for the race, the great majority of persons over five years of age will also be bespectacled. For the adult, the inconvenience of having to wear glasses is unimportant, and with men this can also be said of the cosmetic effect. But with women, the disfigurement is certainly worth considering, and with young children glasses are a veritable infliction, both for patients and their parents.

It is unquestionable that a vast number of slight errors of refraction, and a considerable proportion of more pronounced ones, are borne for many years or for a lifetime without appreciable discomfort or detriment. The immense majority of eyes are ametropic, *i.e.*, theoretically abnormal; yet I think I am stating it mildly to say that it is the practice of the majority of oculists in this country, whenever a patient with 0.75 D to 1 D of hypermetropia, or 0.25 D to 0.5 D of astigmatism, comes complaining of eye symptoms not otherwise easily explained, to give him glasses for constant use if he will endure it. It is so rare to encounter an absolutely emmetropic eye, even in persons with no eye trouble, that we are seldom at a loss for some defect upon which to shift the blame. This defect may not be the cause of the difficulty, but if it is corrected and the symptoms disappear, the glasses get the credit for the change, and their use is continued often when they have accomplished nothing, or, at most, have tided over some emergency which might have been passed through without them. In this class of cases I have always started with the idea of avoiding the use of glasses if it can be done without permanent discomfort to the eye. If the patient is a child, my custom is always to tell the parents that, while glasses may be an eventual necessity, it may be possible to postpone their use for many years if the child be given light work for a time, and be made to think about the eyes as little as possible. Proper hygienic instructions are given, the most important points being to keep the work at sixteen to eighteen inches from the eye, and have the light properly arranged. If the child is a bookworm, more physical exercise is prescribed. Considerable patience and confidence in the oculist on the part of the parents is often required, for sometimes months are needed before the symptoms disappear entirely; but in the great majority of cases, with no more than one dioptric of hyperopia, or one-fourth of a dioptric of astigmatism in the vertical or horizontal meridian, my experience is that the trouble passes by, and that the need for glasses will probably not be felt again till the patient is past thirty-five, unless the occupation be very trying for the eyes. Of course, the difficulty of avoiding glasses increases with the degree of the defect, but with children

[1] Read before the Omaha Medical Club, February 7, 1890.

less than 2 D of hyperopia seldom requires correction, even for reading; while with young ones of five to eight years with no tendency to squint, much higher degrees may with advantage be left uncorrected for distance, because the refraction sometimes changes materially between the ages of five and ten years, the tendency being for the hyperopia to grow less; and if it does, the child, not having become wedded to its glasses, may go on for many years without having to use them except for reading.

Of course many cases occur where, on account of the nervous make-up, slight errors have to be corrected, and still oftener, particularly when there is temporarily an unusual strain on the eyes, as in young persons finishing school or preparing for college, or where the general system is run down from any cause, much may be accomplished by giving reading-glasses with the instruction to try leaving them off altogether after a time. With adults it is more difficult to avoid prescribing glasses, and here the objections to their use are less important. When they begin to complain of asthenopia, we generally have to correct the existing errors, for reading at least, unless the symptoms are due to some temporary stress or general derangement. It is, however, astonishing how often high degrees of astigmatism and hyperopia are born by adults without the slightest inconvenience beyond the poor vision or the necessity for the early use of reading-glasses which they cause. Indeed, a very high degree of astigmatism is less apt to cause asthenopia, when the eyes are not much used for close work, than a medium grade, probably because the subjects do not strain their ciliary muscles trying to see clearly, since the greatest effort of which they are capable exercises no appreciable effect upon the clearness of sight.



In these days, when so much emphasis is being laid upon the evil effects of eye strain, the question naturally arises whether in trying thus to avoid the inconvenience and disfigurement of glasses, we do not expose the eye to serious risk. My own conviction is that we do not. Many oculists are of a contrary opinion, and some speak assuredly of glaucoma and cataract from the non-correction of refractive errors, to say nothing of headaches, chorea, and epilepsy. For cataract and glaucoma it may be said that, while there are certain theoretical reasons why such non-correction might act as a predisposing cause, there is no good evidence that it does. If glaucoma is disproportionately common in hyperopic eyes, which is doubtful according to the recent statistics of Lozhetchnikoff (Abst. in *Ophthalmic Review*, October, 1889), it probably is so because hyperopia and a tendency to glaucoma are both results of a rigid sclera. If there is any connection between glaucoma and astigmatism, the latter is probably an effect rather than a cause; and if Schoen's theory of the influence of unsymmetrical ciliary contraction on the development of cataract were correct, we should certainly find cataract much more common with the educated classes, while, without having figures to support the idea, it seems to me the reverse obtains. If ametropia ever causes chorea or epilepsy, the connection is so rare as to be of no importance in this discussion. Headaches are, of course, frequently caused by slight refractive errors, and by avoiding a wholesale condemnation of children to the use of glasses, now and then a head will begin to ache later on in life; but there is little danger that some oculist will not have a chance to correct the error before serious trouble has resulted.

It should be observed that the foregoing does not apply to myopia. All myopes can, of course, have distant vision improved by glasses, and while, for the development of the mind, it is important that they should begin the use of distant glasses early in life, it is indifferent, simply for the health of the eyes, whether low degrees of myopia be corrected at all or not; but where the myopia is high enough to require reading to be brought closer to the eyes than eighteen inches, reading glasses should be prescribed, if for no other reason than to decrease the strain on the convergence, as this is probably the most important factor in causing myopia to develop and increase in eyes otherwise healthy.

In conclusion, I wish it clearly understood that I have no idea of disparaging the wonderful results sometimes obtained by the correction of slight degrees of ametropia. From a position of extreme scepticism regarding the effects of any glass of more than two metres focal distance, I have come to prescribe the quarter of a dioptric cylinder with very good results with some nervous men and women; though, considering the minimal optical effect of the glass and the temperament of the patients, I have often questioned whether the mental effect of the glasses was not greater than the physical; just as I doubt whether many of the wonderful results of graduated tenotomies are not achieved on the principle of the faith-cure. My object in writing the paper is simply to protest against the wholesale prescription of spectacles, particularly for children and young persons, with what seems to me to be insufficient cause.

Clinical Department.

THE TREATMENT OF ACUTE TONSILLITIS.

By EDWIN H. BIDWELL, M.D.,

VINELAND, N. J.

THE article by Dr. Hudson, of Stockton, Cal., in the MEDICAL RECORD of May 10, 1890, on "Veratrum Viride in Tonsillitis," is interesting not only because he makes a valuable contribution to the therapeutics of that frequent and hence important disease, but for its illustration of what we "average practitioners" have so often observed, namely, how writers, noted ones too sometimes, make everything appear so as to show off their own particular hobby in the very best possible light.

He says, speaking of the ordinary methods of treatment in tonsillitis, that "not more than ten per cent. recover without suppuration." Now "according to the best evidence attainable," as I read modern authors and my own experience, the antithesis, that not more than ten per cent. fail to terminate by resolution is certainly much nearer the truth. But I have no quarrel with Dr. Hudson, and must ask his indulgence that I may use his article as a text for some remarks which I feel prompted to make. I have nothing new, but my excuse for offering anything at all is the conviction that in the fashionable scramble after new things some of the old and true ones cannot be too often repeated lest we forget them entirely.

Boucsein, of Baltimore, in a careful study in the *Journal of the Medical Sciences*, October, 1889, expresses the opinion that acute follicular tonsillitis is a specific disease with an average course of three and one-half days, and that no remedy has any curative or abortive power. In the latter belief he is at variance with most authorities and, I think, mistaken. Morell Mackenzie (*Medical News*, January 26, 1889) considers guaiac "really specific" in the superficial (lacunar or follicular) form, and that it occasionally succeeds in aborting the deep (parenchymatous or suppurative) form, even when the inflamm ation *begins*, as Trousseau pointed out that it sometimes does, in the substance of the gland. In his estimate of

the value of guaiac he is supported, more or less enthusiastically, according to their therapeutic temperaments, by many authors since the time of Ball, who introduced it as a specific, among them Agnew, Solis-Cohen, Bartholow, and Sajous.

Other remedies have also been highly vaunted—as cocaine by Dr. Haviland Hall and Boeckel (MEDICAL RECORD, October 1, 1887), salicylic acid, Haberkorn, (MEDICAL RECORD, September 28, 1889), bicarbonate of soda, boric acid, and strong solutions of nitrate of silver, by various authors, as local remedies, and aconite (Ringer) salve, antifebrin, salicylate of soda, and benzoate of soda internally. Boielmière (*Ann. Univ. Med. Sciences*, 1889, IV. E. 9) claims for this last to have cured seventy-five cases in an average of twenty hours, results quite as good as those of Dr. Hudson with veratrum viride. Unfortunately, benzoate of soda has not had as great success in the hands of others.

On the whole, the weight of authority is overwhelmingly in favor of guaiac, and with it, it seems to me, I have often had cures as rapid and remarkable as have ever been claimed by any one, and the general or gross results have been so eminently satisfactory that I have never been tempted to try any other remedy. I have had but one case within the last seven years, seen early, to go on to suppuration, and in that, in a very large fleshy man, the abscess of one tonsil opened spontaneously on the second day, and of the other on the third, so that he was virtually well on the fourth day from the inception of the attack. It has happened repeatedly that patients, who had previously "had their tonsils lanced" many times, recovered, without any necessity for that procedure, both pleasantly and rapidly.

Locally, I use only poultices on the outside of the throat, preferably a slice of fat pork, though flaxseed answers very well for those prejudiced against the vulgar pork, and in severe cases inhalations of steam. I give guaiac according to the following formula, first published, I believe, in the *Medical News*, August 11, 1883, and given also in Solis-Cohen's article on "Tonsillitis" in Pepper's "System," which I am accustomed to prescribe under the name of "Solis-Cohen's Gargle" or "Garg. Guaiac Comp."

℞. Tinctura guaiaci ammon.,
Tinctura cinchona comp.....ää fl. ℥ j.
Honey, strained..... ..... fl. ℥ iij.
Saturated solution chlorate of potash ..... fl. ℥ xvj.

Of this the dose is a teaspoonful every two hours, hour, or half-hour, and I generally direct to both "gargle and swallow."

When gargling is difficult, and in young children, the dose is administered at intervals corresponding to the severity of the case without any attempt at gargling, and I am not quite sure but that it is equally efficient given in that way.

I frequently add aconite to this mixture; hereafter, in view of Dr. Hudson's recommendation, I shall substitute veratrum viride.

Mackenzie thinks lozenges more active than liquid preparations of guaiac, probably from more prolonged local action, and for this reason and for the greater convenience in dispensing in country practice, I have recently had Messrs. H. K. Mulford & Co., of Philadelphia, make me some compressed lozenges to correspond to the above mixture. Each contains four minims of ammoniated tincture of guaiac, four minims compound tincture of cinchona, and three grains of chlorate of potash, about equivalent to one drachm of the gargle, made up with licorice, aromatics, and sugar to a twenty-grain lozenge. These are useful and convenient also in many forms of sore throat, both acute and chronic, and in their special field, acute tonsillitis, they seem as efficient as the liquid gargle, though not by any means so pleasant to the taste.

In the differential diagnosis of the rheumatic form of tonsillitis I think no reliance can be placed upon a history of previous rheumatism or its absence. These cases are characterized by an amount of pain, fever, and dysphagia disproportionate to the objective symptoms. In them salicylate of soda in free and frequent doses is as satisfactory as guaiac in the more common form, which I think there are good reasons for believing a specific infectious disease, *not* of rheumatic origin.

A CASE OF DRY-GANGRENE, IN A BOY TWO AND A HALF YEARS OF AGE.

BY C. M. KELLEY, M.D.,
WINCHESTER, IND.

H. H. H—— was a boy two years and eight months of age, of robust and healthy constitution, having no dyscrasia nor unhealthy diathesis, and there being no hereditary disease in the family. He was never sick up to this time, active and vigorous.

On about June 10, 1889, my attention was called to a dark spot on the right foot, a simple discoloration of the skin on the dorsum of the foot, over the metatarsal joint of the little toe, about the size of a quarter of a dollar, or less. The skin was not broken, nor was there any sign of injury. It was just turned dark, showing death of the tissue to that extent without any external cause. There was no fever, and the boy made little complaint. I immediately recognized the seriousness of the condition, and began poulticing with the purpose of separating the dead from the healthy tissues. In the course of a few days it began to loosen, leaving a square, punched appearance of the edges, the black, dry centre still remaining attached at the bottom. About this time, June 15th or 16th, a line of red spots appeared along the inner side of the right leg (showing the course of poison), accompanied with fever, which in the course of a week reached 105° F., pulse, 160, and urine normal. The dark, dry centre still remaining I poulticed two or three days longer with yeast and charcoal poultice, and washed the gangrenous sore with bichloride solution. It still remaining firmly attached but not spreading, I had finally to dissect it away with a scalpel, and in a few days more all shreds of dead tissue had disappeared. Of all the physicians who saw him at this time almost all gave an unfavorable prognosis. After about one week the fever subsided, only to return again and again, as high as at first, for ten weeks. One peculiarity of the disease was an eruption. This eruption came in uniform shapes, in concentric rings, a red centre surrounded by a white ring, then a red ring, and so on. These were over the whole body, the legs, the trunk, the arms, and the face. Besides these regular shapes, there was a mottled, pied appearance of the skin, this was particularly marked about the face. This eruption came out with the fever, disappeared and reappeared with the fever each time, until the last few times, when the regular forms were absent, and only the mottled eruption appeared. The eruption always came when there was fever, and at no other time.

Another peculiar feature was the periods in which the fever recurred. On observation I found the fever recurred in exact periods of six days from the highest point of exascerbation one time to that of another, and lasted about two days.

Another peculiarity of the disease was the whitish, putty appearance of the stools. This I noticed after the first week, and it continued until convalescence was established, with tympanites of the bowels, which was extreme when the fever was high. The liver was slightly tender, and the cervical and inguinal glands were slightly enlarged. The flesh was always sore at the recurrence of fever. He ate heartily at all times, except during the highest fever, especially of meats.

The patient missed the paroxysms of fever after about ten weeks; he was somewhat pale and weak for a while, a flushed, mottled appearance now and then showing itself on the face, but now he is running about and seems to have made a good recovery. Quinine was used in large

doses until it was found to have no effect on the return of the fever, and Fowler's solution, calomel and syrup, iod. of iron, elix. iod. bromid, calcium comp. was also used, and a free purgation at the time of high fever and tympanites.

To recapitulate, this was a case of dry (senile) gangrene in a child two and a half years of age, followed by fever which recurred in regular periods of six days, with a peculiar characteristic eruption. (That this form of gangrene should appear in a child is very strange, and so is the subsequent history.

There are three kinds of gangrene—1, Acute, or moist; 2, senile, or dry; 3, contagious, or hospital, gangrene.

Three very interesting questions present themselves in this case:

1st. Why gangrene of this type, which is recognized by all authors as belonging essentially to old age, or in impaired feeble states of nutrition, should occur in a boy two and a half years of age, and especially in one so robust and healthy, is unaccountable. Wyeth says, "Dry gangrene may occur in any period of life; although children and adults are occasionally attacked, it is, in the vast majority of cases, a disease of the aged; hence it is called senile gangrene. Calcareous degeneration of the arteries," he says, "is given as a cause," but that could not be the case in this boy.

Hamilton says, "This variety of gangrene depends chiefly for its origin on those conditions peculiar to old age. They are essentially calcification of the muscular coats of the extreme arteries, united probably, in most cases, with a feeble action of the heart and with more or less atheroma of the larger vessels. Feeble action of the heart alone is competent to the production of a similar condition, as we see in examples which succeed low fevers or copious bleedings." I have heard of a case following scarlet fever, but in this case there had been no sickness; he had been in perfect health apparently." Gross says, "Mr. Pott was of the opinion that the disease was peculiar to old age, but subsequent experience has shown that it may occur at different periods of life, and within the last fifteen years a number of cases have been reported in which it occurred in children under ten years of age." He does not say he had seen the cases, and if a man of Gross's wide experience had not seen such cases, we must conclude it to be very rare.

Wyeth also says: "In many cases of dry gangrene there is no history of an injury. Symptoms of constitutional debility and general impairment of nutrition usually precede the local expression of the disease."

But there were neither of these conditions, neither calcification of the arteries, which could lead to embolism or thrombosis, nor enfeebled nutrition, and *no injury*. Thus, I am at a total loss to understand the origin of this case.

2d. Another feature in the case for which I am unable to assign any satisfactory explanation is the peculiar eruption, resembling some kinds of blood poison, especially those arising from animal bites.

3d. The periods of the fever. I have read of no fever which has a period of six days, and

4th. The nature of the poison, which causes an eruption, and fever recurring in exact periods of six days. There was undoubtedly a poison or a miasm capable of reproducing itself. I will only offer this suggestion that gangrene is caused by, or at least, produces a microbe, and that in this case the poison, of whatever nature, had the power to reproduce itself in periods of six days.

I should be glad to hear from the profession anywhere on this case.

Law against Adulteration in Russia.—The Russian Government has recently enacted some very stringent laws against the adulteration of food and drink. Any person guilty of adulterating any article of food will be liable to a fine of $200 or imprisonment for three months for the first offence, double this penalty for the second, and deprivation of all rights as a citizen for the third.

Progress of Medical Science.

Acute Primary Œdema of the Larynx.—Dr. Bernardo Martino reports the case of a girl, eighteen years of age, who was suffering from œdema of the larynx after "catching cold." The stenosis increased to such a point that it was thought best to transport the patient to the hospital. The dyspnœa finally became so urgent that tracheotomy was performed, the tube being left in for about two weeks. —*Revue de Laryngologie, d'Otologie, et de Rhinologie*, April 15, 1890.

The Treatment of Club-foot.—Orthopedic surgeons are by no means in accord as to the treatment of talipes, some advocating tenotomy in every case, others regarding operative measures as the last resort, and to be thought of only after a long trial of stretching. In the April number of the *American Journal of the Medical Sciences*, Dr. James K. Young reviews the testimony on either side, and comes to the conclusion that there is no arbitrary rule to be observed. He sums up the indications for one or the other method as follows: 1. Stretching should always be first employed in cases which are seen early. 2. Mild cases should always be treated by stretching. 3. Patients who object to the knife can be effectually cured by stretching, but it requires a longer time. 4. A tenotomized tendon is as strong as one that has been stretched. 5. In severe cases it is better to save time by tenotomy. 6. After-treatment to prevent relapse is quite as important as the operation itself.

Injections of Ether in Intestinal Obstruction.—Dr. Clausi reports two cases of intestinal obstruction relieved by rectal injections of ether, after all other methods had been tried and had failed. He employed an enema consisting of 12 gms. of sulphuric ether, 90 gms. of alcohol, and 300 gms. of fennel water. This injection was passed up as far as possible by means of a long cannula. At the beginning some colic was experienced, but soon evacuations followed, first of ether and then of fecal matters. The author attributes this result to the irritation of the peripheral nerve-terminations in the intestine, and the consequent increase in peristalsis, and also to the distention of the gut by the vapor of ether.—*Revue Générale de Clinique et de Thérapeutique*, No. 12, 1890.

Helianthus in Intermittent Fever.—Dr. Maminoff has obtained excellent results in certain cases of malaria in children from the use of helianthus annuus, a remedy recently proposed by Rosatchkoff, of St. Petersburg. The tincture of helianthus, one part in five, prepared from the flowers and bark of the plant, is a yellowish-green liquid, almost tasteless, and without odor. It may be administered to children in doses of from ten to twenty-five drops three or four times a day. The first case in which Maminoff made use of this tincture was in his own child, three years of age, who had contracted a quotidian fever that resisted the action of quinine and of Fowler's solution in pretty large doses. He then had recourse to the tincture of helianthus, and on the second day the access of fever was very sensibly reduced, while from the fourth day on it had disappeared entirely. The drug was continued for a week, or until the tumefaction and tenderness of the spleen had disappeared. A fresh paroxysm of fever appeared at the expiration of a month, but yielded at once to the helianthus, and never again returned. This success led the author to make a number of experiments with the remedy in his clinic of children's diseases, prescribing it in place of quinine for malarial fevers. In every instance the results of this mode of treatment were excellent, old cases especially yielding promptly in three or four days.—*Rivista Clinica e Terapeutica* May, 1890.

Vinegar often relieves at once the irritation produced by the bites of mosquitoes and other insects.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, July 5, 1890.

THE HYDROPHOBIA EPIDEMIC.

ONE needs to be but a very casual and careless reader of the daily papers to have had impressed upon his mind the fact that reports of cases of hydrophobia in man and beast are becoming alarmingly frequent. Dogs, horses, pigs, cats, men, women, and children, all over the country, are falling victims to the dread disease—if the newspapers are to be credited. Rabies has always existed in the world; indeed, one of the earliest terrors that appeals to the vivid imagination of the young child is that inspired by nursery tales of mad dogs, and many a timid girl, whose fears have been excited by these wicked stories, has been thrown into convulsions at the sight of a playful dog making friendly advances toward her. But the season for the nursery form of the disease, if we may so designate it, was always summer—the "dog days" being very appropriately selected as the time best fitted for the production of the malady, and the winter and spring were periods of safety. The present epidemic, however, has had no regard for tradition, but began early in the spring, or rather, late in the winter, and has steadily increased, regardless of meteorological conditions, since the establishment of the Pasteur institute. It is a curious fact that, in France and elsewhere, the prevalence of rabies has seemed to be closely dependent upon the rise of Pasteur institutes, and the more the institutes flourish the more numerous become the cases of hydrophobia among the community at large. Leaving aside the question of the existence of such a disease as hydrophobia, and whether, if it do exist, it may be prevented by Pasteur's method; or even admitting freely both these as actual and undisputed facts, it may well be asked how much the community gains by the creation in it of an institution for the treatment by preventive inoculations of rabies. Is the sum of human misery thereby diminished, or is it increased? Of course, the widest publicity is essential to the success of such an undertaking. People cannot avail themselves of a good thing unless they know of its existence, and they can never know of it so quickly as when they are informed through the medium of the daily press. Consequently, hardly a day passes that the papers do not contain accounts of alleged mad dogs, and of the setting out of their victims on a pilgrimage to the branch Mecca of Pasteurism in New York City. What is the effect of all this publicity? Can anyone doubt that it is to create needless alarm in many minds? Admitting the existence of hydrophobia as a distinct and well-defined disease, it is certainly one of exceeding rarity, and one may pass through a long professional life without seeing a single case in which the symptoms would suggest rabies. Yet, within the past six months we have heard of nothing so frequently as of hydrophobia. If our country were as thickly populated with abandoned curs as is the city of Constantinople itself (where, by the way, hydrophobia is said not to be recognized), we could not expect to have more cases of the disease than we are told that we have now. It cannot be doubted that many, if not all, of these cases are instances simply of fright, and that of those treated by preventive inoculations, so-called, not one in ten, at a very high estimate, is in the slightest danger of acquiring hydrophobia. The rest, and thousands of other people throughout the country, are simply frightened nearly to death. We have nothing against the Pasteur institute in this city, nor against the gentleman who has charge of it, and we believe that he is inspired with the highest motives and with a desire to popularize a method which he thinks will be of the greatest benefit to humanity; we will not argue as to the method itself, whether it accomplishes what is claimed for it or not; but we are firmly convinced that the establishment of such an institute in this country, with the popular agitation on the subject of hydrophobia to which it has given rise, is unfortunate, and has already been productive of an incalculable amount of mental anguish in those who may have been bitten by dogs, but who would never have given their simple wounds a second thought were it not for this newspaper notoriety.

FRANCE AND THE INTERNATIONAL CONGRESS.

IT is to be hoped that the physicians of France will not allow their political animosities to interfere with their attendance at the Berlin Congress this summer. At first, judging from the tone of the French medical press, it seemed as though no one calling himself a true Frenchman would dare to show himself at the Congress held in the enemy's capital city, but of late there has seemed to be a better spirit ruling, and we hope to hear of a large attendance at Berlin of representative French medical men. If there is not, it will not be for the lack of a cordial invitation from the German committees having charge of the arrangements for the meeting in Berlin. Nothing, indeed, could be more calculated to calm the natural irritation which was at first felt than the following from the pen of Virchow. He writes these words in a recent number of his *Arkiv:*

"Now that we have been called to offer our hospitality, we hope to see among us our confrères from all parts of the world. They may be certain that everything will be done to render both agreeable and profitable their sojourn in our city and in our country. We are ready to profit by their experience, and we should be happy if they might find among us something which would serve to instruct them. We shall not introduce into the scientific debates or into the social reunions anything which could make them feel out of place; we shall wound neither their political nor their religious sentiments. If we all respect each other as colleagues, and also a little as men, it will

be easy to overcome all differences. Medicine and humanity, they are the sole ends of the Congress. It is in this spirit that we have extended the invitation, and we hope that it will be accepted in the same spirit."

Certainly, if such a feeling animates all those who will assist at the meetings of the Congress, there need be no fear of any outburst of national antipathy. The French medical press association has taken up the question in a very sensible manner, and has issued a letter urging the physicians of the country to attend the Congress without hesitation or fear of meeting with any disagreeable experiences while in Berlin. The French government has also decided to send official delegates, and has detailed three army surgeons for that duty. There are, however, still some disaffected ones who have long memories and who are unable to reconcile Virchow's present pacific attitude with certain of his utterances in the past. He is said, for example, in an article written nearly twenty years ago, to have insulted the entire French nation collectively and individually. "Nations," he remarked, "often betray symptoms of disease in the same manner as individuals, and the affection which shows itself in the individual as an arrest of cerebral activity is at times met with over a large area as a psychic epidemic. A distinguished alienist of Southern Germany, Dr. Carl Stark, has come to similar conclusions from a study of recent events. [This was written in 1871.] He has shown, by a careful analysis of isolated and independent phenomena, that the mental condition of the French nation approaches in its general characteristics paralytic idiocy or emotional insanity."

This still rankles, absurd as it may appear, and many patriotic Frenchmen are loath to believe that any one who would write like that when under the influence of political animosity could ever repent or be softened by time. They neither forget nor forgive, and so hold themselves aloof from all participation in an international event from which they cannot exclude their enemy.

We believe, however, that better counsels will prevail, and that, despite the ill-feeling of a few individuals, there will be no boycott on the Congress. And this is well. The absence of the French members would seriously interfere with the success of the Congress, and it cannot but be the earnest wish of all who have the interest of the meeting at heart, that national jealousies shall not be allowed to intrude themselves into the domain of a science which knows no parties and no races, but only a common humanity.

THE AMERICAN MEDICAL COLLEGE ASSOCIATION.

THE permanent organization of this Association was effected, as announced in our columns at the time, in Nashville, on May 21st, during the annual session of the American Medical Association. There were nearly one hundred delegates present, representing fifty-seven colleges. The following are the rules of admission to the Association adopted by this convention, and which are to go into force within two years, or at the beginning of the college term of 1892–93:

"1. That the colleges shall require a graded course of instruction covering a period of not less than three courses of lectures of six months' duration each before graduation.

"2. That both oral and written examinations be required of all students.

"3. That a thorough course of laboratory instruction be maintained in chemistry, histology, and pathology.

"4. That there be a preliminary entrance examination consisting of:

"*a.* A composition written in English, of not less than two hundred words.

"*b.* The translation of easy Latin prose. (It is provided, however, that students be allowed one year to make up any deficiency in this examination.)

"*c.* An examination in Higher Arithmetics.

"*d.* An examination in Elementary Physics.

"It is provided, however, that candidates who are graduates or matriculates of normal schools supported by the different States be exempt from the provisions of this examination."

There can be but one opinion as to the nature of this change. It is distinctly an advance, and must tend to raise the standard of medical education throughout the entire country, affecting even those colleges which are not of the Association, forcing them to raise their own standard if they would compete with their neighbors. The good work of advancing medical culture is progressing surely, even if slowly, and the formation of the American Medical College Association is one of the signs of the times.

A STRANGE ACCIDENT.

DEATH sometimes seizes his victims in most queer and unexpected ways, but a stranger accident than one that happened not long ago in this city has seldom been recorded. A lady who had been suffering for several years from pulmonary trouble had been advised to try inhalations of hot air, and had purchased an apparatus for that purpose. In this apparatus is a thermometer, by means of which the patient is enabled to tell when the temperature is at the required height for the inhalations. One day the lady noticed a peculiar dryness of the throat coming on during the inhalation, but did not think much about it until it began to grow very uncomfortable. Then she inspected the apparatus, and found that there was a white powder in the inhaling tube. Removing this, she resumed the inhalations, but was soon obliged to desist on account of a sudden illness. This increased, and in spite of treatment the lady died the following day. Examination of the apparatus showed that the thermometer had broken, and the mercury falling out had been volatilized by the great heat and had caused fatal mercurial poisoning.

THE MEDICAL PROFESSION AGAIN DISREGARDED.

THE *Maryland Medical Journal* says: "Governor Jackson has permitted the constitutional time allowed for signing bills passed by the General Assembly to go by without giving his signature to the Medical Bill. The bill, therefore, fails to become a law. The profession and the people of Maryland are left for another period of two years without protection from the annual invasion

of medical quacks and incompetent practitioners squeezed out of other States into this State. His Excellency has shown a spirit of narrow-mindedness and of prejudice utterly unworthy of a cultivated and enlightened executive. He has treated the medical profession of Maryland with the most marked disrespect and disregard." This is only another illustration of the trifling weight attached by politicians to medical opinions and wishes.

If this were because these opinions are weak and these wishes impracticable or hurtful, such treatment might be endured as being of educational value. But this is not the case.

As politics are conducted in this country, the politicians and the organized bodies of voters alone have any influence. If the profession of Maryland would regain their self-respect and secure their just requests, let them organize and vote together. A body of men representing two thousand votes would amount to something in the eyes of the authorities, but a body of men simply representing an important idea are of no use in politics.

News of the Week.

Medical Education in Buenos Ayres.—In 1889 there were 430 medical students in the University at Buenos Ayres. Of these 66 were foreigners and 46 were women. Most of the latter were taking special courses in obstetrics, preparing themselves to practise rather as midwives than as physicians. There were 43 graduates in medicine in that year.

Needle-makers' Phthisis. — A sanitary physician at Stratford-on-Avon calls attention to the large mortality (seven per cent.) from phthisis among the workers in needle factories. He attributes the prevalence of the disease to the general insalubrity of the factory buildings, and more particularly to the insufficient ventilation of the work-rooms.

Deaths of South American Literary Men.—Within a period of five weeks five distinguished writers of Colombia have died. They are the publicist, Don Adriano Paez; the distinguished lawyer, Dr. Ramon Gomez; the Christian poet, Don Benjamin Periara Gambody; the writer and poet, Don Hermogenes Sarabia; and Dr. Florentino Vezga, the old and well known writer. The latter edited during a long period the *Diario de Cundinamarca*, and was author of a very interesting book on the study of botany in Colombia.

Dr. D. Gomperz, whom many students at Vienna will remember in the clinics for ear diseases under Politzer and Gruber, at the General Hospital, has established himself as a practitioner in diseases of the ear and nose in that city.

Dr. William Russell, of Utica, N. Y., died at his home in that city on June 27th, in the sixty-ninth year of his age. He was born in Glasgow, Scotland, and came to this country with his parents when he was eleven years of age. His early education was acquired at the Whitestown Seminary, and in 1841 he began the study of medicine with the late Dr. Whiting Smith, of Whitesboro. Later he pursued his professional studies at the Berkshire Medical College, Pittsfield, Mass., and after being graduated by that institution he took a post-graduate course at the New York College of Physicians and Surgeons. He was a member of the State Medical Society and of the American Medical Association.

A New Training School for Nurses.—St. Luke's Hospital Training School for Nurses in this city graduated its first class on June 28th. Six ladies received diplomas, and two of them will remain in the service of the hospital.

The International Congress.—The committee announces that all the hotels in Berlin have offered to entertain visitors to the Congress at reduced rates. Many furnished rooms are usually vacant during August, and they will be placed at the service of the committee. Information concerning the latter may be obtained at the office of the Congress, No. 19 Karlstrasse.

The Long Island College Hospital Training School for Nurses held its fourth commencement exercises on June 17th. Diplomas were granted to twenty-one graduates.

Dr. Charles W. Goucher, a well-known physician, died at Erie, Pa., June 23d, at the age of forty-two. He was a native of Greenville, Pa., and was a graduate of the Cleveland Medical College.

Leprosy in Dutch Guiana.—Leprosy is said to prevail extensively among the natives of Dutch Guiana. Three priests of the Redemptorist Order who work there are reported to have contracted the disorder, and one is dying at Batavia.

In Memory of Dr. Byford.—The one hundred and sixth meeting of the Chicago Gynecological Society was held on June 13th, at the Grand Pacific, its proceedings being entirely devoted to the memory of the late Dr. William H. Byford, one of the founders of the Society, and its first deceased Fellow.

Fiske Fund Prize.—The Trustees of the Fiske Fund Prize of the Rhode Island Medical Society have awarded a prize of three hundred dollars to Dr. Edward Martin and Dr. H. A. Hare, of Philadelphia, for an essay on "The Treatment of Wounds and Obstruction of the Intestines," and a prize of three hundred dollars to Dr. Philip Coombs Knapp, of Boston, for an essay on "The Pathology, Diagnosis, and Treatment of Intercranial Growths.' For 1891 a premium of three hundred dollars is offered, under the usual conditions, for the best essay on "The Etiology, Pathology, and Treatment of Diseases of the Hip-joint."

The State Preliminary Examination of Medical Students.—It seems a somewhat unnecessary waste of time and energy for the State Board of Regents to send out elaborate circulars regarding the preliminary examination of medical students. The present amended law allows the medical student to spend three years in preparing for his preliminary examinations. In other words, the industrious student can have passed his final examinations in medicine before he passes his preliminary, to show that he is sufficiently educated to undertake the study of the medical sciences. The law is, of course, a

most ridiculous one. Still, the fact that it exists and that the regents are acting as though it possessed some force, will doubtless lead to its doing some good. The present law allows the Regents to excuse from these elementary examinations any candidate who possesses qualifications which the Regents consider and accept as fully equivalent. The Regents, at their recent meeting, after prolonged discussion, agreed upon equivalents to be accepted, and to-day print a circular carefully defining them. They are: "1. The completion of a full year's course of study in college. 2. A three year's course of study in a high school. 3. Any of the Regents' diplomas, which require from three to four years' study in a first-class high school. 4. Two studies each from the four groups into which the Regents' examinations are divided, viz., mathematics, science, language and literature, and history, philosophy, etc. 5. Any ten studies in which the Regents examine." The State is protected by the provision that certificates will be accepted only from institutions which have been examined and registered as maintaining the proper college or academic standard. The lowest equivalent accepted is for ten studies from the Regents' list, nearly all of which must of necessity be of higher grade than the seven required by the old law, so that those who are anxious to have the standard maintained are more than satisfied. But this system entirely removes the criticism on the old law, that a man who had led his class through the entire university course would be shut out from our law and medical schools as incompetent, if he had, from sickness or other reason, left college a few days before graduation. Regents' examinations for medical students will be held in the College of Physicians and Surgeons, in Fifty-ninth Street, September 23d, 24th, and 25th next. The questions given in New York will be employed in examinations held simultaneously in three other cities in the State.

Dr. Edward P. Davis has succeeded Dr. I. Minis Hays as editor of the *American Journal of the Medical Sciences.*

The Moor-bath a Humbug.—Many have wondered at the general fondness for moor-baths, often called mud-baths, in Germany, and various are the virtues ascribed to them. Dr. Jacob, of Cudowa, now declares they have no particular merit of any kind. A bath containing clay mud, and therefore devoid of the supposed chemically irritating substances in a "moor-bath," has exactly the same effect. Dr. Jacob considers that the concentrated essence of moor, kept at certain bathing establishments, is utterly useless, and the result of superstition.—*British Medical Journal.*

"**The Maryland Medical Journal**" celebrates the completion of its twenty-second volume by coming out in new type and a tasteful cover. We congratulate our esteemed contemporary upon its success, which is, furthermore, so well deserved.

The Cholera.—According to the latest cable reports, the number of new cases of cholera in Spain is decreasing, the province of Valencia, where the disease first appeared, being reported entirely free from it. On the other hand, new cases have been discovered in other parts of Spain and in some towns in the south of France.

"**El Shifa**" is the name of a medical journal which has been published for some years in Cairo, in the Arabic language. Dr. Grant Bey, to whom we are indebted for a recent issue of the journal, is a frequent contributor to its columns.

Typho-Malarial Fever in Texas.—Dr. George Dock, of Galveston, Tex., writes: "The report of my remarks in the discussion on the 'Continued Fevers of the South,' in the current number of the MEDICAL RECORD, contains some errors which I beg to have corrected in justice to the subject as well as myself. I did not say they never spoke of typho-malarial fever in Texas, for I have spoken in Texas of typho-malarial fever myself. What I did say was that in the *part of Texas where I practise* we do not have to exclude the malarial complication, or consider it, in the atypical fevers called by some typhoid, by others catarrhal, and as to the nature of which there is a difference of opinion. The statement attributed to me as to the treatment used is also erroneous, in that it gives the impression of a general practice where I spoke of single experiences, and I did not say one hundred and fifteen grains of antipyrine three times a day, but one hundred and twenty to one hundred and sixty grains in the course of a day, not of antipyrine (I spoke of 'antipyretics'), but of antifebrin"

The Surgeon-General of the Army, Dr. John Moore, will be retired on August 16th, on account of his reaching the age limit.

A new Medical College.—Our contemporary *The Times and Register* discourses lightly upon the new medical college at St. Louis. "We have long felt," it says, "that St. Louis really needed a new medical college. Last summer, as we rode along her streets, watching the Indians who had strolled in from the neighboring reservation, and dodging an occasional buffalo, we felt that another college was the one thing needful to make her citizens happy. And now it has come. The Marion-Sims College of Medicine has assumed shape, and presents itself with a faculty at least equal to any of those previously existing in St. Louis."

A Case of Osteomalacia Treated by Castration.—Dr. Albert Hoffa, of Würzburg, reports a case of osteomalacia treated by castration. The patient, aged thirty-one, had been four times pregnant, and in all the disease progressed. In the later pregnancies premature induction of labor had to be induced. The progressive nature of the disease induced Dr. Hoffa to remove the ovaries. Nine months after the operation, he was able to pronounce a permanent cure. He is of Fehling's opinion, that when the disease is steadily progressive, and the patient is in the child-bearing age, removal of the ovaries is demanded. —*Medical Press.*

The Vienna Poliklinik treated about forty thousand patients in 1889, and had 488 medical men in attendance. It receives a subvention of $70,000 from the Government, and $5,000 from the Emperor. From the above it appears that the post-graduate instruction in this city already exceeds that in Vienna. In our two institutions here, over eight hundred medical men are taught annually, while the dispensary and hospital resources of New York's "polikliniks" far exceed those of the Vienna institution.

The Central New York Medical Association on Coroners.—At a meeting of this society, held a short time ago in Rochester, the following resolutions were adopted :

"*Whereas*, It is part of the duties of a coroner to view all dangerously wounded persons and bodies found dead, to determine when, where, how, and in what manner such persons were wounded or came to their death ; and to cause inquests to be held if in his opinion a crime has been attempted ; and,

"*Whereas*, Such duties presuppose not only a knowledge of law and of legal processes, but also such a knowledge of anatomy, physiology, pathology, toxicology, and other allied sciences, as to qualify the coroner to determine between natural and criminal conditions ; and,

"*Whereas*, The office of coroner may be, and often is, held by men without legal or scientific qualifications ; therefore,

"*Resolved*, That in the judgment of the Central New York Medical Society, the laws relating to the office of coroner ought to be so changed as to render only competent men eligible to office, to the end that society may be better protected from attempted crime ; and

"*Resolved*, That the State Board of Charities, the Medical Society of the State of New York, and other societies interested in promoting the common weal, be requested to co-operate in the effort to accomplish the enactment of new laws relating to coroners as set forth in the foregoing resolutions."

The following officers were elected to serve for the ensuing year : *President*, Dr. Nathan Jacobson, of Syracuse ; *First Vice-President*, Dr. A. A. Hubbell, of Buffalo ; *Second Vice-President*, Dr. R. M. Cooley, of Oswego ; *Delegates to State Convention*, Drs. B. I. Preston, of Rochester, and C. H. Richmond, of Livonia.

A Contribution to the Subject of the Inheritance of Acquired Deformities.—There is at present much interest felt in the subject of heredity, and particularly of the views of Weismann and his school. The following communication, from a correspondent in St. Clairsville, O., whose name we cannot decipher, is timely. He writes :

"One of my patients has a black Newfoundland bitch—she had a long, bushy tail. The first several litters of pups were all like the mother, so far as having nice, long tails. Sometime since, an evil-disposed person shot off about half of her tail. Since then she has had several litters, and about one-half—just one-half—have short tails. What is the physiology of this case ?"

Fees of Russian Physicians.—A correspondent of the *London Daily News* writes that the comparatively few Russian physicians who have attained a conspicuous reputation in their own country are paid even more handsomely than are many of the leading members of the British faculty. A few days ago a wealthy local notability at Odessa, Mr. P. S. Ralli, was operated upon for abscess in the hip by Dr. Sklifassofsky, of St. Petersburg. The operation was successfully performed within twenty minutes. The fee demanded and paid was 11,000 rubles, equivalent to £1,222. Incidentally a lady availed herself of Dr. Sklifassofsky's visit to Odessa to have an operation performed for cancer, for which she paid the operator 2,000 rubles, or £222. And yet, adds the correspondent, there are very many hard-working, conscientious, and skilful young practitioners busily engaged among the poorer classes of the populous provincial centres in Russia, whose yearly income does not exceed six or seven hundred rubles.

An Unfortunate Mistake in Dose.—A woman died not long ago in an English infirmary from an overdose of chloral, administered to her by the nurse on the doctor's order. The house surgeon found a bottle in the medicine closet, labelled "chloral, 1–2 solution." He, curiously enough, took this to mean thirty grains to the ounce, instead of thirty grains to the drachm, and prescribed accordingly. The patient had undergone an operation of resection of the intestine for strangulated hernia. She was doing very well, and would probably have recovered but for the surgeon's blunder.

Another Antiseptic, Sysol.—Dr. Gerlach, of Wiesbaden, has described the antiseptic power and advantages of sysol, which he has recently used with much success in Wiesbaden. As a bactericide it is more powerful than carbolic acid or creolin ; it is less poisonous than either of these two; and, finally, it is much cheaper than either. Sysol is not confined to use in closets, stools, washings, etc., but may be applied anywhere in the domain of medicine without any danger of poisoning or of discomfort. The active principle in sysol is the cresole. Gerlach believes that the drug will be found to be of real value, and that it will come into general use.

Five Years' Study for English Medical Students.—The General Medical Council has, at its session just concluded, recommended five years' study for medical students, and has formulated the definition of the five years' study which ought to be insisted on as follows :

"The fifth year shall be devoted to clinical work at one or more public hospitals or dispensaries recognized by any of the licensing bodies mentioned in Schedule A of the Medical Act (1858), provided that of this period six months may be passed as pupil to a legally qualified medical practitioner holding public appointments, or possessing such opportunities of imparting practical knowledge as may be satisfactory to the medical authorities."

This definition was carried, eighteen voting for and eight against.

Goat Vaccine.—M. Hervieux, in a lengthy paper on goat vaccine, read before the Académie de Médecine, comes to the following conclusions : A goat inoculated with cow's or human lymph furnishes lymph exactly similar to that of the cow ; vaccination direct from the goat succeeds as well as from the cow if the lymph is used quite fresh. Vaccination with goat's lymph, after it has been used to vaccinate a human subject, gives the same results as cow's lymph. In consequence of the discussion at the Academy of Medicine concerning goat's lymph, MM. Bertin and Picq asked that their *pli cacheté* deposited at the Academy last January, should be opened. Its contents may be summed up as follows : Tuberculosis may be transmitted to the human subject by cow's lymph. Goats, which are refractory to tuberculosis, should be substituted for cows ; the latter may be tuberculous, and yet be apparently in perfect health. MM. Bertin and Picq are continuing their experiments on the cow and the goat, to ascertain if tuberculosis can be transmitted either by virus or vaccine.—*British Medical Journal.*

Society Reports.

OHIO STATE MEDICAL SOCIETY.

Forty-fifth Annual Session, held at Columbus, June 4, 5, and 6, 1890.

J. McCURDY, M.D., PRESIDENT, IN THE CHAIR.

G. A. COLLAMORE, M.D., SECRETARY.

AFTER the opening session had been called to order by the President, the report of the Secretary was read. There had been nine deaths during the year out of a membership of 536.

The following papers were read:

"Errors of Refraction and Muscular Adjustment as Causes of Nervous Phenomena," by Dr. C. F. Clark, of Columbus; "Cleanliness in Eye Surgery," by Dr. B. L. Millikin, of Cleveland; "Surgery of the Knee-joint," by Dr. N. P. Dandridge, of Cincinnati. Dr. D. P. Allen, of Cleveland, showed a woman on whom he had done a successful nephrectomy.

A committee appointed to secure the more thorough organization of the State, reported in favor of making the members of all the county societies members of the State Society, as is done in Indiana. The recommendation was taken under consideration for one year and the committee continued.

Dr. N. Senn, of Milwaukee, on motion of DR. R. HARVEY REED, of Mansfield, was elected an honorary member of the Society.

The Treatment of Compound Comminuted Fracture was the subject of a paper by DR. S. L. McCURDY, of Dennison. The doctor exhibited a number of specimens, mostly of railroad injuries. He was a young man and advocated heroic surgery, saying that conservatism was only an excuse for ignorance and cowardice.

The "Rôle of the Microbe," was the subject of a wise paper by Dr. A. R. Smart, of Toledo. "The Etiology and Treatment of Pneumonia" was the subject treated of by Dr. S. P. Deahofe, of Potsdam; and "Vaginal Hysterectomy," by Dr. A. B. Carpenter, of Cleveland.

The President's Address, by DR. J. McCURDY, of Youngstown, was on the subject, "The Care and Treatment of the Insane in this Country." He compared the history of the treatment of the insane in the various countries with that in the United States, which was to the great credit of the latter country. The Society of Friends, of Philadelphia, were the first to treat the insane kindly. He advised the taking of the incurable cases from the county poor-houses, and placing them in specially adapted institutions. He thought the law of New York State should be followed by others, viz., that all officers and attendants should be compelled to pass an examination, and not allowed to enter upon the work unless qualified. They should, when fully entered upon their duties, be placed upon the civil list and not subject to the caprices of politics. The asylums should be built on the cottage plan. One-half acre should be allowed to each inmate, and rural life encouraged. Medical societies should recognize, more than they have done, the study and treatment of the insane.

The Recent Epidemics of Diphtheria, Scarlet Fever, and La Grippe, at the "Sailors' and Soldiers' Orphans Home," at Xenia, was the subject of a paper by DR. C. M. GALLOWAY, of Xenia. He thought the pages of history might be searched in vain for instances where the attendants in public institutions did more, better, and faithful work in epidemics of contagious diseases. The Home contained about 1,000 children, and the history of the rise and progress of the disease and the tireless efforts to dispel it was truly interesting. Children were again placed in certain cottages as often as three times, and still the epidemic returned. It was finally necessary to tear out the floors and plumbing. One young lady of Xenia volunteered to attend the little sufferers, and died of diphtheria. The disease could have been better handled had the hospital accommodations been greater.

The More Frequent Use of Chloroform in Obstetrics was the subject of a paper by DR. J. F. BALDWIN, of Columbus. His conclusions were as follows: "Chloroform relieves pain. It shortens labor. It prevents shock. It prevents nervous and physical exhaustion. It reduces the liability to rupture of the cervix and perineum. It does not conduce, to any material degree, to post-partum hemorrhage. It does not affect the fœtus. It is absolutely safe when properly administered. He knew of no real contra-indications to its use, and urged that the boon be given to all women who ask it. He uses it chiefly in the second stage, carrying anæsthesia to the obstetrical degree merely; but at the last moment, when the head is distending the vulva and the agony is most extreme, he produces full anæsthesia. He spoke of the absurdity of the physician who, in the very acme of human suffering, would refuse the blessed unconsciousness that he quickly supplies for the mere drawing of a tooth or lancing of an abscess.

The First Porro Operation made in Ohio was the subject of a report made by DR. J. F. BALDWIN, of Columbus. The patient was a dwarf, aged twenty-four, 47.5 inches in height, with an antero-posterior pelvic diameter of one and one-fourth inch. The operation was successful, both mother and child being saved. He also briefly reported three laparotomies made by him during the year, for various diseased conditions. Two of the operations were very difficult, but all the patients made excellent recoveries.

Carcinomata Mammæ was the subject of a paper by DR. DUDLEY P. ALLEN, of Cleveland. The doctor believed that the common rules for diagnosis, and the prevailing advice as to operation, were bad. He insisted very strongly on the early operation. He thought we should not wait for immobility of axillary glands, for infiltration of tissue, and depression of nipple. He recommended, as a method of gaining access to the axillary space, the finding of the axillary vein and following it up. On early diagnosis and operation depends the success of the case.

DR. W. W. PENNEL, of Fredericktown, used chloroform in the first, second, and third stages of labor. He thinks accidents are due to carelessness. In nine-tenths of the deaths from chloroform the fact of the matter is that the chloroformist does not attend to his business.

Puerperal Fever was the subject treated by DR. G. H. COLVILLE, of Harrisville. He favored antiseptic precautions and time in the open air after having seen an infectious case, before going to a woman in confinement.

DR. D. N. KINSMAN, of Columbus, did not believe in auto-inoculation, or that the disease was carried by scarlet fever. He believes that the poison is introduced through some abraded surface in the genital organs, through which it gains access to the blood. He advised thorough antiseptic treatment of the genitals. Cases formerly regarded as hopeless, under modern ideas of antisepsis, are cured.

The High Amputation of the Cervix vs. Total Extirpation of the Cervix, was the subject treated by DR. T. A. REAMY, of Cincinnati. He argued that if we remove the whole uterus for epithelioma of the cervix, why not remove the vagina, bladder, and fimbriated extremities of the Fallopian tubes? Three cases in New York, post mortem, showed disease limited to the external os.

In two cases operated upon in Ohio the histological examination showed no evidences, whatever, of the existence of cancerous disease.

Intra-pelvic Surgery for the Relief of Inflammatory Diseases, was the subject of a paper by DR. R. B. HALL, of Cincinnati. This paper was a report of one year's work, and a supplement to ten consecutive cases of abdominal section for the removal of the uterine appendages. The cases tabulated reached eighteen in number, and all but three had pus. All recovered. He wished to say that he could not make this report unmarred by a death, but that he had them where he could give them careful

after-treatment. It has been asserted that the after-treatment in these cases amounts to nothing. As a rule, they do not require long treatment, but need very careful attention for a few days at first. These operations are among the most trying in pelvic surgery. No exact estimate can be made, before opening the abdomen, of the gravity and extent of the complications to be met with in any given case. No man has a right to open the abdomen unless he is prepared for any emergency which might occur, and is competent to deal with the conditions found on the spur of the moment. He thought that all cases of prolonged chronic salpingitis should have a prolonged and systematic course of treatment. In many of the cases reported, it was impossible to separate the adhesions without bursting the pus-sac. In every case where this occurred, and in those where there was much bleeding, the abdominal cavity was washed out. Free washing-out of the abdominal cavity need not be feared, the heat relieves the shock. He has constantly employed it, when necessary, for three years, and has not seen a single case where it caused bad symptoms. The irrigation is continued till the water returns clear. Although all the cases recovered, many of them would not submit to an operation till *in extremis*. The doctor had seen four cases in consultation, and advised an operation, which was refused by the physician in charge and the friends of the patient, because an operation involved danger to life. All of these cases died within a few weeks from peritonitis, with every indication of ruptured pus-tubes. Three of these cases were proven by autopsy. There is danger in the so-called conservative, or let-alone plan, in cases where there is pus in the pelvis as well as in operation.

Cholecystotomy, report of a case, with exhibition of specimens, was the subject brought before the Society by Dr. Rufus B. Hall, of Cincinnati. The patient was a slender woman, thirty-nine years of age, the mother of seven children, the youngest six years of age. Severe pain and vomiting of bile was followed by the jaundice and the observation of an enlargement in the region of the gall-bladder, which disappeared in about two weeks. It was not long till these symptoms returned. An operation was suggested, but refused. She went on and grew worse, falling from one hundred and fifteen to ninety pounds. When *in extremis*, and apparently dying, the doctor was called in consultation. An operation seemed the only ray of hope, and was suggested and consented to. The enlargement which was supposed to be the gall-bladder proved to be the liver. The gall-bladder was enlarged, and an obstruction was found caused by a stone in the common duct. Patient lost considerable blood, and it was necessary to reopen the wound. Patient survived the second operation. For fully a week her temperature was subnormal, once or more times during the twenty-four hours. The tube was removed on the sixteenth day, and on the twenty-first the sinus closed. The cholæmia rapidly disappeared. She complained of nausea but little after the third day, and vomited but twice after the operation was made. On the third day she retained liquid food, and after the fifth she had a ravenous appetite. The stools showed the presence of bile from the first movement, which was on the fourth day; on the twenty-eighth day she was able to go downstairs, and is now in her usual good health.

Shirt Studs and Teaspoons.—M. Périer, of Paris, has successfully performed gastrotomy on a man aged thirty-six, in order to extract a teaspoon from his stomach. M. Périer made the incision recommended by M. Labbə to the greater curvature. The patient is now in excellent health. A child aged ten, who swallowed a shirt stud made of bone, has also been successfully operated on by M. Périer. The foreign body became impacted in the upper part of the gullet, and M. Périer performed œsophagotomy and removed the stud. The child made an excellent recovery.

THE ILLINOIS STATE MEDICAL SOCIETY.

Fortieth Annual Meeting, held in Chicago, Ill., May 6, 7, and 8, 1890.

First Day, Tuesday, May 6th—Morning Session.

The Society convened in the First Methodist Episcopal Church, corner of Clark and Washington Streets, and was called to order by the President, Dr. John Wright, of Clinton.

Prayer was offered by the Rev. F. A. Noble, of Chicago.

The address of welcome in behalf of the local profession was delivered by Dr. Norman Bridge, the response to which was made by Dr. T. J. Pitner, of Jacksonville.

Dr. C. W. Earle, of Chicago, then presented the report of the Committee of Arrangements, which was a very elaborate one.

The Causes and Treatment of Pneumonia.—Dr. J. M. G. Carter, of Waukegan, Chairman of the Committee on the Practice of Medicine, read a paper on this subject, in which he said the question of etiology has given rise to considerable discussion, and in many minds to doubt. Six different varieties of bacteria had been mentioned by Bremmer as causing this disease, and others had been mentioned by later writers. The diplococcus of Fränkel had lately been shown to be present in most cases of pneumonia, especially croupous pneumonia. Wolff found it in ninety-four per cent. of the cases examined by him. Baumgarten thinks it is safe to assume a single sole cause for pneumonia. In Wolff's cases verification was established by cultures in more than half the cases. Monti examined the exuded fluid in twenty cases, with but one negative result. Sometimes the Fränkel diplococcus was found in company with other bacteria. In these cases of Monti, Friedlander's micrococcus was not seen. Inoculation of fifty-nine rabbits, while universally successful, produced typical pneumonia only when the sputum was introduced into the trachea. Inoculation under the skin produced septicæmia; into the pleura, pleurisy; into the pericardium, pericarditis. Inoculation of the dura mater of a dog produced meningitis and lobar pneumonia. Fränkel, Foa, Whittaker, and others have shown that the cause of pneumonia is not confined to the lungs, but invades other organs and tissues. Weichselbaum, Netter, Mircoli, and others have found the diplococcus after pneumonia in the ventricles of the brain, connective tissue of the mediastinum, the jugulum, above the clavicle, behind the œsophagus, in cavities about the nose, in the drum cavity and labyrinth of the ear. Tomasi, Golgi, and others believe pneumonia to be caused sometimes by malarial poison, and this view corresponds with that of physicians in the southern part of Illinois and other malarial districts in the United States, where this form of the disease is called "winter fever."

Dr. Carter said it must be admitted that the cause of pneumonia is not fully settled by the profession. It has not been proved that the bacillus is not a concomitant rather than a cause of the disease. In the present state of our knowledge the following indications for the treatment are clear: 1. To equalize the circulation and diminish the determination of blood to the lungs. 2. To reduce the temperature of the body. 3. To sustain the patient's strength. 4. To assist the mucous membranes and organs of secretion and excretion in the performance of their functions. 5. To allay pain. Petresco says digitalis may check pneumonia at the outset. It is of value in asthenic cases and when the heart is weak. Dr. Carter had not been favorably impressed with antipyrin, nor with antifebrin, and of late had not given them. Quinine is usually serviceable, and in malarial cases, essential, not only to reduce temperature, but also as a germicide and antiperiodic. Liebermeister advises blood-letting when there is œdema of the lungs, but Dr. Carter believes this may be avoided by blistering and the use of digitalis.

Bruckner has reported over seventy cases treated with tartar emetic with great success.

Dr. Carter regretted that there is no well-appointed laboratory for microscopical and physiological research in Chicago.

The Relation of Evolution to the Problem of Infectious Diseases.—Dr. G. Frank Lydston, of Chicago, read a volunteer paper on this subject. He said much of medical progress, for several decades past, has consisted in the isolation and differentiation of contagious diseases and their classification as specific entities. Dr. G. De Gorrequer Griffith, of London, England, published, several years ago, a theory of the unity of poisons, which implied that certain contagious diseases were identical in origin, and that their poisons could be developed through certain changes of a chemical character occurring in organic matter. Thus he recognizes two forms of scarlatina: 1. That contracted from a scarlatina patient, or through the medium of something that has been in contact or in communication with him. 2. That which has generated *de novo* from blood-poison, such as occurs in puerperal patients and in surgical cases (the "surgical scarlatina" of Paget) from deleterious matters absorbed or otherwise passed into the blood, and thence into the tissues of the body; or from noxious drains and sewers, or the ingestion of pernicious articles of drink or food, such as tainted water, milk, cream, decomposing animal or vegetable substances. We have, by evolution, the spontaneous generation of so-called specific poisons. Dr. Lydston does not hold that the germs themselves are spontaneously developed, for while such an event is perhaps possible, it is as yet disputed by the best scientific authorities. He claims that the poison of disease may be developed by the evolution of, and acquirement of, new and toxic properties by germs which were primarily innocuous.

The local venereal diseases, and in this category he included not only gonorrhœa and chancroid, but their congeners, such as herpes, balanitis, simple urethritis, etc., are among the best illustrations that we have of the poisons of infectious disease. The idea that gonorrhœa and chancroid are diseases which have been inseparable from the human species is certainly untenable. The origin of gonorrhœa and chancroid must necessarily be the same, if the evolutionary theory of their origin be correct.

The conditions which modify the results of the virus generated *de novo* in the human vagina are: 1, The age of the decomposition; 2, the degree of inflammation present; 3, the frequency of coitus; 4, the character of any semen or urethral discharges which may be deposited in the vagina; 5, the degree of cleanliness of the woman; 6, the amount and degree of virulency of the virus deposited upon the absorbent surface in another individual; 7, the cleanliness, local and constitutional condition, habits, and sexual hygiene of the recipient of the cultivated virus; 8, individual predisposition.

Afternoon Session.

Dr. W. O. Ensign, of Rutland, as soon as the Society had reconvened, took the chair, and President Wright proceeded to deliver his Annual Address, in which he advised the formation of country and district medical societies, and the co-operation of physicians throughout the State.

Dr. Wright then attacked the liquor traffic, and said that the State Board of Health should revoke the certificate of every physician known to use alcoholic liquor as a beverage.

Diagnosis of Typhoid Fever.—Dr. J. H. Wallace, of Monmouth, contributed a paper on this subject, in which he first protested against the common custom of calling all cases of continued fever typhoid. To be of practical importance to the patient our diagnosis must be based on the careful study and examination of the symptoms presented during life, and not on the phenomena observed after death. There are certain symptoms in common in all cases of typhoid fever. Thus, Dr. N. S. Davis says: "In classing all cases of continued fever under the head of typhoid and typhus, physicians ignore some of the plainest facts of clinical experience, and place in the same group cases essentially different in causation, symptoms, and pathological results. It remains therefore for us to detect minute differences."

The onset in typhoid fever, continued Dr. Wallace, is more gradual than that of any other fever, coming on insidiously and with premonitory symptoms. There is not that uniformity in the origin of typhoid fever which is found in intermittent, remittent, and yellow fevers, where we can give name to the cause and study the law of its diffusion. Cases of typhoid are met with at all seasons of the year, in all climates, and in all portions of the habitable globe, and among all varieties and nationalities of people. Two things are necessary to bring about a case of typhoid fever: 1, The poison; 2, the person liable to be poisoned. In all cases of suspicious typhoid fever an examination of the urine should be made, as Bright's disease, abscess of the kidneys, with blood-poisoning, occasions a deceptive likeness to typhoid fever. Wilson says that the most marked changes in the secretions from the kidneys is found to be interstitial or diffuse nephritis, probably of septic origin. Dunn regards our present knowledge inadequate to the solution of the question as to the part played by micro-organic ferments in the causation of the disease. One of Da Costa's diagnostic indications is the duration of the fever, he asserting that it lasts fully three weeks, and very frequently much longer.

The next thing in order was the report of the Special Committee on Diseases of Children.

Vaginal Irritation as a Cause of Bladder Symptoms in Young Girls.—Dr. Katharine Miller, of Lincoln, read a paper on this subject. More common even than enuresis among girls is a form of irritability of the bladder, manifesting itself chiefly in an inability to retain the urine in the normal manner. It is often complained of in school-girls, who are obliged to leave the school-room, even between intermissions, in order to pass the urine, else the bladder, spasmodically contracting, empties itself in spite of every effort of restraint. Even with the promptest attention to its demands, these girls are occasionally subjected to the mortification of wetting their clothing. Oftentimes no complaint is made of any other symptom than this annoying vesical irritability. The condition is more common at the age of six to twelve or fourteen, but may, if untreated, persist indefinitely. Examination reveals an extremely sensitive and hyperæmic condition about the vaginal orifice, and further investigation will show the extension of this tenderness within the vagina. Often this latter investigation can only be made by the use of an anæsthetic, not only because of the small size of the parts, but because of their extreme sensitiveness. Whatever the cause, the treatment must be directed to the removal of the vaginitis, when the bladder will recover its tone. Cleanliness must be enjoined. Not only is careful washing needful, but warm hip-baths are of value. Soothing powders must be dusted on, the vulva being opened as far as possible, and children old enough to understand the aims of the procedure will generally submit to the application, at night, of a small pledget of absorbent cotton, wet with a healing lotion containing pinus canadensis, hamamelis, carbolic acid, or similar remedy diluted with thin boiled starch. Where the urine is normal, rhus aromatica has proved a valuable aid in controlling the habit of irritability of the bladder and relieving the symptoms, till the cause can be removed.

Four Cases of Disease of the Mastoid.—Dr. Robert Tilley, of Chicago, read a paper on the above subject, in which he said that Barker, of London, in a study of abscesses of the brain, states that three-fourths of the abscesses of the brain are in the temporo-sphenoidal lobes, and that nine-tenths of subdural abscesses are found in a

circle one inch and a half in diameter, with its centre one inch and a quarter behind, and one inch and a quarter above, the centre of the bony auditory meatus. It might be further said, remarked Dr. Tilley, that nearly all these abscesses originate from some disturbance in some part of the external auditory apparatus. As long as facts substantiate this statement, the study of mastoid affections will not cease to be interesting.

The report of the Committee on Revision of the Constitution was called for, and was presented by the Chairman, Dr. Thomas M. McIlvaine, of Peoria. The report embraced several changes, among which was dividing the scientific work of the Society into three sections, as follows: 1. Practice of medicine, materia medica, and therapeutics. 2. Surgery, ophthalmology and otology, dermatology and venereal diseases. 3. Obstetrics, gynecology, and diseases of children.

The proposed changes and recommendations, after considerable discussion, were adopted section by section, and then as a whole.

Evening Session.

The evening session was devoted to a discussion of the question, "What shall We Do with our Insane?" Dr. E. Ingals, of Chicago, opened the subject by a brief paper. He was followed by Judge Prendergast, Dr. R. S. Dewey, Superintendent of the Kankakee Insane Asylum, Dr. Corbus, of the State Board of Charities, and Dr. Sanger Brown, of Chicago.

On motion the Society adjourned, to meet Wednesday morning at 9.30.

Second Day, Wednesday, May 7th—Morning Session.

Dr. C. W. Earle, Chairman of the Committee of Arrangements, announced that immediately after adjournment at noon, the Society would repair to Kingsley's, where a lunch would be tendered to visiting members by the Faculty of the Chicago Post-Graduate Medical School.

The report of the Committee on Surgery was then read by its Chairman, Dr. F. C. Schaefer, of Chicago. He said: In scouring the field of surgery we are compelled to admit that antiseptic surgery is an established fact. Very few surgeons at the present time have the hardihood to treat wounds without some pretensions to antisepsis.

Sterilized Lint.—M. Regnier recommends lint sterilized at the temperature of 248° F. for surgical dressings, having himself used it in many operations of various kinds with as good results as with antiseptic dressings. A surgical dressing may be antiseptic, and yet not germicidal. It is then inhibitory in its action, it prevents the germs from passing through it into the wound; and such qualities Lister claims to have found in the double cyanide of mercury and zinc, and by means of experimentation he has succeeded in preparing a gauze charged with the double salt. He says the double cyanide requires about three thousand parts of blood to dissolve it. If, therefore, it is present in a gauze in the proportion of about three per cent., you will easily understand that blood-serum may soak through such a gauze time after time without washing the ingredient all out; so that it is a material which is admirably stored up in the dressing. That is one of its three great advantages, the others being that, while trustworthy as an antiseptic, it is completely unirritating; and under this we find that not only do wounds, the edges of which are brought accurately together, unite beautifully by first intention, but even granulating sores heal by the gradual process of cicatrization from the edges—heal by scabbing in a way that we have never seen under any other dressing.

The Surgical Treatment of Typhlitis.—The operation should not be performed until all inflammatory and other symptoms have quite subsided. The incision should be made obliquely from above downward and inward over the cæcal region, its lower extremity ending just external to the epigastric artery. The incision should not be made directly over the appendix, or over the dullest region. If it be so placed a number of adhesions will probably be encountered, and the demonstration of the peritoneal cavity might be difficult. The cæcum or the appendix might be actually adherent to the anterior abdominal wall. The incising of the peritoneum should, therefore, be conducted with the very greatest care. It is well that the parietal cut should open the abdomen at a point just beyond the diseased area, and where no adhesions exist. When the appendix and cæcum are exposed, the area of the operation should be cut off from the general abdominal cavity by sponges. If this plugging with sponges be well carried out, no blood should enter the peritoneal space. All adhesions should be divided by cutting; none should be "broken down." The latter measure is apt to tear the bowel, or, at least, to bare it of peritonitis. The appendix should be lightly clamped close to the cæcum, and should be divided about half an inch from that intestine; it should not be secured by a simple ligature. The mucous membrane should be united by many fine sutures, or by a continuous suture; then the divided outer walls of the process should be brought together by a second row of sutures; it is practically impossible to bring the serous coats together. To still further secure the orifice, the stump of the appendix might be lightly attached to any adjacent surface of the peritoneum. The abdominal wound should be closed; no drain is required.[1]

Perityphlitis Vermicularis always belongs to the province of surgery, and the following two points are proven: 1. That perityphlitis is always accompanied by a pus-cavity. 2. That with the present plan of treatment the patient is more liable to a recurrence of the disease.[2]

Other subjects upon which Dr. Schaefer commented at length were: Herniotomy, bone surgery, gastrostomy, gastro-enterostomy, etc.

Dr. J. A. Freeman, of Millington, read a paper on "Harrison's Operation for Enlargement of the Prostate Gland," which was followed by a contribution entitled "Surgical and Mechanical Therapeutics in Diseases usually treated by Medicines alone," by Dr. George N. Kreider, of Springfield.

He presented the following conclusions:

1. That mechanical and surgical measures are the most certain in our armamentarium, and are only now assuming their proper position.

2. That when called to see a case of disease, the first aim of the practitioner should be to determine by proper examination and research whether some mechanical or surgical appliance cannot be used in conjunction with, or in place of, medical treatment.

3. That the "do something" which this action implies will be more uniform in its results, more successful in its curative effects, and more pleasing to the patient than the "think something" treatment, which tries every medicine by turns and nothing long, and hopes for beneficial results.

4. That the ability to use exact appliances for the examination of patients and treatment of disease should be possessed by everyone attempting practice, and that this ability is only to be obtained by preliminary training and clinical instruction.

5. That treatment of disease in this manner has a tendency to elevate the profession in the eyes of the public, and to dissipate nonsensical sects which divide the profession and waste its energies.

Malignant Diseases of the Rectum.—The general discussion on this subject was opened by Dr. D. W. Graham, of Chicago, who made some remarks on clinical diagnosis. He said: We have a certain group of symptoms common to almost all organic diseases of the rectum. These consist of interference with the function of the bowel; more or less diarrhœa, watery in character, more or less blood and mucoid discharges mixed with

[1] Treves. [2] Murphy and Lee.

fecal matter, this condition alternating with constipation. Pain is present; there is a general disturbance of health, as well as a disturbed mental condition peculiar to this region. Along with these symptoms we may have tubercular or the ordinary dysenteric ulceration of the rectum, with cicatricial contraction resulting. We may have the results of true syphilis present, the ordinary gummy deposit, and the so-called syphilitic inflammation of the rectum, which causes the deposit and ulceration and thickening. The age of the patient is an important aid to diagnosis. The disease usually develops during or after middle life. A few cases, however, are on record where the disease developed in people of twenty years of age.

Palliative Treatment, by DR. E. P. COOK, of Mendota. The indications for palliative treatment of malignant diseases of the rectum are, to maintain the permeability of that portion of the intestinal canal and the solubility of the fæces, to prevent the accumulation of fæces above the diseased parts, to secure a free passage of fecal matter and gases from the gut, to retard and arrest development of the disease, and to relieve pain.

DR. C. TRUESDALE, of Rock Island, spoke on palliative operations and their relative merits. He said a constant result of malignant disease of the rectum is more or less stricture and resulting obstruction to the passage of fæces. The first palliative operation resorted to is usually urethral or rectal bougies, for the purpose of dilating any stricture or structures which may exist. When the conclusion is reached, however, that an operation for a radical cure is inadmissible, the less we meddle with the rectum the better. The only thing worthy of trial, in his opinion, is an occasional irrigation with some warm antiseptic solution, such as warm carbolized water, the latter acting not only as an antiseptic, but also as a sedative.

DR. JOHN E. OWENS, of Chicago, dwelt upon the radical operations and their relative merits. The operative treatment for cancer of the rectum may be briefly considered under two heads, viz.: *First*, colostomy, or the establishment of an artificial anus, or some modification of the operation for diverting the fæces from their passage through the rectum, and thus dispensing with this portion of the bowel as an active organ. *Second*, proctectomy, ablation, or excision of the rectum. Proctectomy is confined to the lower portion of the bowels. If not attended by an undue mortality, or followed by great disadvantages, it should take its stand as an established procedure. During the last two or three years Dr. Owens has advised all patients who have been operated upon for cancer to report to him every thirty days. In this way recurrence of the disease can be dealt with promptly.

Senile Prostatic Enlargements.—The discussion on this subject was opened by Dr. Edmund Andrews, of Chicago, who illustrated his remarks.

Dr. Andrews was followed by Dr. A. E. Hoadley, of Chicago, who discussed in an able manner the indications for suprapubic and perineal method of approaching the prostate for operation.

"What are the Recognized Methods for Removing Prostatic Obstructions?" was the subject of Dr. C. Chenoweth, of Decatur.

Dr. A. B. Strong, of Chicago, read an interesting paper on the results of operations for the removal of prostatic obstruction.

AFTERNOON SESSION.

Renal Calculus.—The diagnosis was discussed at length by Dr. I. N. Danforth, of Chicago; the operation by Dr. J. Frank, of Chicago.

Perityphlitis.—Diagnosis was discussed by Dr. E. W. Lee, of Chicago; operative treatment, by Dr. Frank Andrews, of Chicago; when to operate, by Dr. J. B. Murphy, of Chicago.

DR. MURPHY said he had operated on seven cases in which there was neither fluctuation nor phlegmon in the abdominal wall, and in only one case did he fail to find pus. He was satisfied that there was almost entire absence of induration in this case, and could not be certain that pus was not present before making an operation. He operated from the ninth to the twenty-first day from the onset of the attack. In one case he failed to come directly on the abscess, but the pus emptied itself through the wound on the second day afterward. Usually, at the end of the fourth day symptoms of general peritonitis subside, and there can be felt a slight induration in the right iliac region; then is the time to operate. Dr. Murphy called attention to cases where there is only a small induration in the ileo-cæcal region, with the accompanying symptoms of perityphlitis, before there is the slightest evidence of fluctuation or phlegmon in the abdominal wall. It is difficult to give the exact indications for the proper time to operate when the symptoms are slight, for both the patient and the surgeon are reluctant to resort to operative interference. As yet the number of cases operated on has been too small to lay down any definite rule; notwithstanding, it is Dr. Murphy's conviction that before many years every case of perityphlitis when diagnosed will be immediately opened, the appendix ligated, if possible, and amputated. This operation gives the only guarantee that a patient can have of safety from the impending danger of the disease, and security against its return. It must be remembered that in making the examination the greatest caution should be exercised in palpation and percussion, as he knew, from experience in making autopsies, that slight pressure can rupture the adhesions, and the whole contents of the pus-cavity escape into the peritoneum.

Treatment of Wounds.—This subject was opened by a brief paper, read by DR. D. A. K. STEELE, of Chicago, on the relative value of the different suture materials. He said, in selecting a suture material we are guided, by the light of modern surgical pathology, to select a material that is surgically clean—a substance that by suitable preparation and preservation has been rendered aseptic, *i.e.*, incapable of containing within itself micro-organisms that would carry infection from without into the tissues of the body. By a rigid adherence to this rule we are enabled to emulate Marcy, and close an aseptic wound by an aseptic suture aseptically applied.

"The Best Method for Preservation of the Different Suture Materials until Required for Use," was discussed by Dr. E. W. Andrews, of Chicago.

What is the Best Method of To-day for Preventing Infection of Operative Wounds? was the subject of DR. L. L. MCARTHUR, of Chicago. As patient, operator, instruments, sutures, and dressings may, any one of them, be a source of infection, Dr. McArthur devoted his attention to each. He ventured the statement that one-half of the primary wounds, under the present methods, are dressed aseptically at the time of operation, and then only become infected at the redressing. Operators under excitement are inclined to drop into careless habits, and proceed somewhat after the following fashion: They call for a questionable basin, and dropping into it an indefinite amount of carbolic acid, proceed to remove the dressings without any such formalities as we were satisfied were essential at first. Here is where the fallacy lies today. Too great carelessness at the redressing permits infection and encourages the sceptical in the belief that there is nothing in the principles of aseptic surgery. Before the old dressing is removed a stream of 1 to 1,000 should be ready and playing on the inner layer of gauze as it is being removed, and during the time of exposure of the wound. Having rendered the parts clean, they can best be kept so by providing, in addition to the regular dressing, a heavy dressing of absorbent cotton, not with the idea of catching discharge, but with the object of filtering the atmosphere which is to gain access to the wound through the dressings.

On motion the Society adjourned, and immediately repaired to Kinsley's, where a lunch was tendered by Dr. C. T. Parkes, of Chicago.

THIRD DAY, THURSDAY, MAY 8TH—MORNING SESSION.

Menthol in Diseases of the Air-passages.—DR. S. S. BISHOP, of Chicago, read a paper on this subject. He had used it considerably in a variety of diseases, and believes its remedial properties entitle it to an important place in the work of general practitioners and specialists alike. A five or ten per cent. solution is as strong as patients generally will bear without discomfort.

Stricture of the Œsophagus.—DR. E. F. INGALS, of Chicago, read a paper on this subject, which, he says, is met with more frequently in men than in women, and usually occurs in early life. It is not infrequent among children, and a few congenital cases have been observed. Strictures resulting from swallowing hot or acrid fluids are usually found at the upper part of the tube, just back of the cricoid cartilage. Next in frequency is the lower portion of the tube, near the cardiac orifice of the stomach. The stricture may be single or multiple. He reported thirteen cases.

Anosmia.—DR. JOHN E. RHODES, of Chicago, read a paper on this subject. He said no treatment has been suggested that will relieve a case of true anosmia. If dependent upon local conditions, as deformity of nasal structure, excessive hypertrophy, or nasal polypi, surgical measures may result in complete or at least partial relief.

Report of the Committee on Obstetrics.—This report was presented by the Chairman, Dr. J. S. Miller, of Peoria, which was a *résumé* of recent progress. It was followed by papers on "The Logic of Progressive Midwifery," by Dr. B. H. Harris, of Groveland, and the "Parturient State," by Dr. Lucinda H. Corr, of Carlinville.

Adenoid Hypertrophy in the Naso-pharynx.—DR. W. E. CASSELBERRY, of Chicago, read a paper on this subject. He said, in multiplicity of cases, gravity of consequences, facility of operative treatment, and brilliancy of results, the disease which is invariably known as adenoid hypertrophy in the naso-pharynx may be said to outrank any other affection of the upper respiratory tract. For pronounced hypertrophy the only satisfactory method of treatment is removal by surgical means.

The report of the Committee on Gynecology was next called for, and was presented by its Chairman, Dr. L. A. Malone, of Jacksonville. DR. MALONE gave a *résumé* of the work done in gynecology, as offered through the medium of medical journals, societies, monographs, etc.

Dysmenorrhœa.—Most happy results have been gained by the use of the steel dilator in this affection, dilating the cervix from three-fourths to one and one-fourth inch, antiseptic precautions having been taken. Goodell has employed this treatment in three hundred and twenty-two cases, without any serious mishaps, with almost invariable and permanent relief.

Tubes and Ovaries.—Abdominal surgery has been in the past few years a fertile field for operation. The sacred precincts of the peritoneal cavity, which but a few years ago none but the boldest dared to enter, have now become the fit arena for even novices to operate in. Since Lawson Tait electrified the world by his wonderful successes, emulators have become numerous everywhere. There is scarcely a hamlet in the United States to-day where may not be found at least one who has opened a woman's belly and erected a tombstone to the memory of his daring. All sorts of mental disturbances and neuralgias have been made a pretext for the operation. Dr. Malone had seen normal ovaries offered as a justification for their removal, the patient being a hystero-epileptic.

Constipation and its Relation to Pelvic Disease in Young Women.—DR. ELIZA H. ROOT, of Chicago, read a paper on this subject. Constipation, long continued, gives rise to a train of symptoms that present themselves for relief in the daily practice of every active physician; nor does he find any one cause of ill health so difficult to remove. It is an active factor in the production of pelvic disease in women; for, where endocervicitis and even retroversion exist, rapid improvement is made as soon as constipation is relieved. The causes of constipation are varied, and arise in childhood from faulty diet, dress, and neglect of elimination. It occurs at the time of puberty when the transition from girl to womanhood gives rise to faulty nutrition and consequent relaxation of all the body tissues. Pelvic disease results from constipation through pressure. The filled and distended sigmoid flexure and rectum press upon blood-vessels, nerves, and muscles, exerting direct and reflex influences upon the functional activity of the whole economy. Dr. Root reported three interesting cases.

AFTERNOON SESSION.

Dr. Mary H. Thompson, of Chicago, read a paper entitled, "A Few Interesting Cases in Gynecology," which was followed by a contribution on "The Prevention of Puerperal Mastitis," by Dr. Ellen M. Heise, of Canton.

Hysterectomy in Malignant Diseases of the Uterus.—DR. F. H. MARTIN, of Chicago, read a paper on this subject. The operator reported five successful cases operated upon during the last year. His conclusions were: 1. Seek to make an early diagnosis of this dread disease. 2. When the diagnosis is made, operate early, selecting vaginal hysterectomy as the operation calculated to give the best results. 3. The legitimate future immediate mortality of this operation in the hands of experts will be as low as high amputation. 4. The ultimate curative results with vaginal hysterectomy must of necessity be the best that it is possible to obtain by operative procedure. 5. Vaginal hysterectomy is indicated in all cases of cancer of the uterus where it seems possible to get beyond the diseased tissue. 6. Choose the open operation; ligate the base of the broad ligament with strong silk, and secure its upper two-thirds with lock-forceps.

Dr. D. A. K. Steele at this juncture exhibited a patient upon whom he had operated for osteosarcoma of the right scapula.

Following this was the report of the Committee on Drugs and Medicine, Dr. John A. Robison, of Chicago, Chairman. DR. ROBISON took for his subject the "Treatment of Phthisis Pulmonalis." He said that the therapeusis in each case must be planned according to the patient, his social relations, his environments, his wealth, and the judgment of the physician. He presented for consideration the hygienic, climatic, medicinal, dietetic, and surgical treatment of the affection. Under the head of hygienic treatment he tabulated the following means: Respiration exercises, or deep breathing; breathing pure air; gymnastic exercises; sufficient rest and sleep; daily baths; dressing properly. With regard to the climatic treatment, he said that the practice of sending patients away indiscriminately is deplorable, as each case must be carefully studied, and the resort be chosen according to the individual temperament, stage of the disease, wealth, and social habits of the patient. A mountain climate is advisable in all cases where there is threatened phthisis with a strong hereditary predisposition, or where there is poor thoracic development. The warm and moist climates, such as the sea-coast or sea-voyages, are most suitable for phthisical patients of an excitable and nervous type, or those suffering from insomnia or bronchitis. The warm and dry climates are best suited to sufferers from phthisis who have heart disease or albuminuria. Surgically, there was every reason to believe that drainage antiseptically of lung cavities will be successfully done in the future. Dennison, of Denver, reports several cases in which drainage promoted cures.

Other papers which were read are as follows: "Opium in Disease," by Dr. C. E. Davis, of El Paso; "Catalpa Speciosa," by Dr. J. Schneck, of Mt. Carmel; "Relation of Eye Strain to Headache and other Nervous Affections," by Dr. F. C. Hotz, of Chicago; "Empyema of Antrum of Highmore," by Dr. R. Brown, of Chicago; "Treatment of Posterior Turbinated Hypertrophy," by Dr.

A. E. Prince, of Jacksonville; "Correction of Slighter Forms of Astigmatism," by Dr. Gardner, of Chicago; "Relation of Nasal Diseases to General Disturbances of Health," by Dr. H. Gradle, of Chicago; "Diseases of Children—Diphtheria, Intestinal Obstruction," by Dr. R. J. Mitchell, of Girard; "A Rational Method of Treating Rotary Lateral Curvatures of the Spine," by Dr. Charles F. Stillman, of Chicago.

Officers for 1891.—*President*, Dr. J. P. Mathews, of Carlinville; *First Vice-President*, Dr. C. C. Hunt, of Dixon; *Second Vice-President*, Dr. F. C. Schaefer, of Chicago; *Permanent Secretary*, Dr. D. W. Graham, of Chicago; *Treasurer*, Dr. T. M. McIlvaine, of Peoria; *Assistant Secretary*, Dr. George N. Kreider, of Springfield.

On motion the Society adjourned, to meet in Springfield, third Tuesday in May, 1891.

Correspondence.

IN THE HEART OF THE NEW SOUTH.

LETTER FROM BIRMINGHAM, ALA.

(From our Special Correspondent.)

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is not always necessary for a Gothamite to cross the wide ocean in order to "see sights" combining the elements of novelty, interest, and entertainment. New York is so well known to possess many of the features of European towns that she is often sneeringly referred to as the most un-American city in the United States. The metropolis may, indeed, be likened to a tangled web of many-colored skeins, not all silk either. For small pains you can find in her vast cosmopolitan make-up representatives of every known continent, besides that scattering minority which hails from nowhere in particular. This mince-pie heterogeneousness of our city is clearly reflected in her medical life. We have Chinese physicians among us. (One of them died the other day, in the prime of life. An Irish widow and two children, one black, the other yellowish, survive him.) Turkish doctors are in our midst and out of it. We lack not the classic Greek, the emetic Tartar, the high-cheeked Scandinavian, and his modest friend from Gaul. With us African medical men are no rarity—and what is more, they manage to speak the vernacular far more intelligibly than our over-abundant British, Irish, German, and Italian importations. Like crude sugar, these medical raw materials are on the free list of the McKinley bill. And like crude sugar, you might not care to have them with your tea, before passing them through a native refinery.

But, all the same, New York is America, even professionally speaking, though possibly not yet to the same extent that Paris is France.

The New South.—But the "New South," of which we have all heard so much lately, the "Great South," which in neuropathic boom-paroxysms has already out-wested the West—that surely is American—core, backbone, marrow, and all.

Well, sir, the American place where I have my American washing "done up," down here, on the American plan, is presided over by a grinning Celestial, whose aide-de-wash is a buxom black lassie, whose right bower is an Irishman from Indiany, bedad. And this giddy triumvirate is skilfully aided and abetted by a one-eyed Italian with an unadulterated squaw for helpmate. For downright unmitigated Americanism, this quintuple alliance of the clothes-line deserves the ginger-snap every time; and probably gets it, too. For whenever I put on anything that has been in that Birmingham, Ala., New South laundry, something snaps, and a low, mellow voice may be heard to softly murmur, "Ginger!" This may seem fancy, but it is a fact, sir, a melancholy fact. As for the polyglotism involved in getting the dirt on your collar and pair of cuffs glossed over, it would be bewildering to any ordinary linguist. But a RECORD man doesn't shy at anything short of a night-call at the free-lunch counter.

It is a few weeks ago that, in response to an urgent professional summons from a New York family, I hurriedly packed my medical grip-sack and started southward for Birmingham. It will be my privilege to reproduce for your readers a few of the impressions made there on the camera (lucida?) of my sensory apparatus. The instantaneous process is now so much in vogue that I have no hesitation in claiming considerable truthfulness for my pen-pictures.

Birmingham.—What I will have to say, however, may not apply to the entire section below Mason and Dixon's line known as the New South, but it certainly refers to the Birmingham region, where I have spent most of my time. It soon forces itself upon the attention of the stranger here that the people have no mean opinion of their place and of themselves. In the aggressive enterprise of the "boom which has come to stay," Birmingham, the Magic City, reminds a Northerner far more of the eager bustle of a Western town, than of the languid indolence of the typical South, especially as depicted in modern works of fiction. There may be a simple reason for all this. The real Southerner is apparently not in the ascendant here. Of course there is no dearth of "Colonels" and "Majors," and high and low employ the pleasing "Howdy," in place of our more prolix Northern form of salutation. But nevertheless the outsiders, the *immigrés*, the new arrivals, *i.e.*, the pioneer class, preponderate by large odds over the old native element.

A recent issue of the leading Birmingham paper, *The Age-Herald* (presumably so called on account of its youthful New York namesake), serenely informs the Birminghamites and their suburban friends, the rest of the world, that "Birmingham is the central city of all the South. Kentucky and Florida, Virginia and Texas, can come together here as at no other point. It is, by right of location and railroad facilities, the common meeting-ground of *twelve States*. Everybody wants to come to Birmingham. All the religious bodies, all the secret societies, all the railroad people want to meet here, and want to meet so badly that they come in spite of the halls we haven't got."

The engaging modesty of this touching sentiment finds echo in the daily utterance of all the nomad residents here. There are no real residers, in the Northern sense. All come and go by the month, the week, or the day, occasionally even by the year.

The Race-Problem Solved.—Nobody ever visits the South without forthwith solving the race-problem. How the hydra-headed monster manages to retain even mediocre vitality in face of its persistent solution, especially by Northern transients, will have to occupy the serious attention of future historians. Of course your correspondent, following imperative footprints, has also solved this ever-present problem. Here is his solution, and may Heaven forgive him if the smack of frivolousness should stand in the way of its immediate adoption: "Trade the nigger off for a yellow pup. Take the pup to the edge of the world. Drop him. And then see to it that he stays dropped." *Probatum est.*

There can be no valid objection to this rather radical method. For, have we not told the Chinaman that he must stay at home? Have we not cheated the only true American, the Indian, out of his birthright, and spurned his piteous appeals for more humane treatment? Then why this apotheosis of the African? He is more alien to the Caucasian than the Malay or the Red Man. Let him return to his native soil and clime, yes, let him climb.

The Practice of Medicine in the South.—Having thus disposed of the most perplexing problem of modern times, we can now profitably turn to the practice of medicine in the South. This appears to me very like the same occupation at home. If there are no far-famed leaders of the profession in Birmingham, they neverthe-

less have men who are called in consultation, and those who never do more than the calling. So, too, do they have big doctors and little doctors; those who are ever haunted by the dreadful secret of their own pre-eminence, as well as that subfamily of "Docs" who are not yet as macrocephalic as they will be a little later on, especially in the estimation of themselves; those who belong to the common, every-day, plenty-good-enough-for-me variety of practitioner, who sometimes hits a nail on the head, and more sometimes doesn't. They have doctors with horses and conveyances, and those without any awe-inspiring appurtenances. They have freshly hatched specialists, with bits of vitelline membrane and shell still fondly clinging to their puny persons, tell-taling the hoary ripeness of their experience. Besides these modern abortions they have the truly venerable humbugs, the fashionable quacks, the "orfully busy" general practitioners, itinerant pile-doctors, and those vagrants who modestly advertise as "lately of the Polyclinic." They have the statuesque frowners and the lubricated smilers, the man who is *suaviter in* his *modo* dealing with all womankind, and proportionately *fortiter in re*gard to the size of his bills. They have the doctor who never speaks at the medical society, and was never known to publish anything at all, and his friend across the way who always speaks, and always says what has been already better said, and who was never known to leave anything unpublished, especially the cases he thinks he has seen, and those matters which he believes he knows.

"Mein Liebchen, was willst du noch mehr?"

The only *avis medicalis* I have not yet run across down here is the top lofty potentate-professor. But though professors come low nowadays, we must have them. It is a matter of time merely, when they will erupt in this torrid zone, and then the mushroom will kindly step to the rear, and a little lively, too, please. Won't he, though?

In other words, they have just about what we have, only a trifle more so, because their medical laws are so strict; and perhaps, also, owing to the absence of a partisan board of health, there being only one party in the South.

Plenty of Doctors in Birmingham.—There is certainly no lack of doctors in Birmingham and its suburbs. In an over-estimated population of 45,000, they count at least one hundred and twenty-five men who expect to get a living out of medicine. And I am credibly informed that quite a formidable proportion of this professional light brigade, with counter-prescribing druggists to right of them, in front of them, etc., never get much beyond the expectant stage of earning their bread and butter.

Now, it is not a bad plan, in my opinion, to let some of our myriad "college-fodder" doctors stew in their own expectations. When they have stewed long enough to be thoroughly well-done, their children will probably choose a less over-populated calling, and one that requires more of an outlay in money, brains, and time than medical "diploma-getting" does nowadays. To borrow a suggestion from practical politics, my motto would be: "Turn the professors out," and "let the doctors in." So long as the "Dr. with a diploma" is such a cheap and plentiful commodity, the "Dr. without a diploma" will remain at his present premium. That ought to make good smoking for some people's pipes. And not a few pipes either, nor yet ten leagues away from home.

One thing is certain, the doctors don't go to Birmingham for their health. They go there for the boom which was, and, in a measure, still is. They go there because they have heard that all the New South doctors are on them ache. Nevertheless, after a due consideration of present chances and prospects, my advice to the young physician about to locate in Birmingham, is identical with *Punch's* counsel to the man about to marry, viz., Don't.

An Undue Proportion of Cripples.—It struck me, however, that there was an undue proportion of cripples, chiefly colored, round about this neighborhood, and doubtless the right kind of an aseptic surgeon could reap a rich harvest here. A few successful extensions, subtractions, infractions (in osseous, not legal parlance), and similarly mysterious doings, that constitute the black art of modern much-mixed orthopædology, would soon establish a medical man's fame on so firm a footing that his pocket-book would speedily cease limping after his money-spending desires. Sounds quite millennial, does it not, from a physician's point of view? According to the well-known adage, it's the early splint that captures the pocket-book.

Common Types of Men and Women.—It is unavoidable, of course, that I should say a few words about common types of men and women. The advent of Barnum (who had not visited this section of the South for over fifteen years) thronged Birmingham with the entire walkable and transportable population of a radius of at least fifty miles. The way some of them came would surely have suggested novel pictures to the artists of our comic journals. Yet these vast crowds of intermingling blacks and whites, though easily inclined to boisterous hilarity, rough pleasantries, and as the day waned, waxing more and more bibulous (as we are all apt to wax), were at least as well behaved as any metropolitan crowd, under similar provocation. The circus afforded me an excellent opportunity to observe fair specimens of rural and city mankind, as well as woman-and-child-kind.

As regards the men, they looked pretty much like men do all over this country, when wholly engaged in the single-minded pursuit of every money-making advantage. I can dismiss the men without further comment than the now firmly settled conviction, that the ubiquitous "Mayjaw" and "Coynal" really are—ubiquitous.

As for the women. May God forgive me if I pronounce a slander upon the fair sex. But the women here don't "look right." I have read recently, and I believe it, that "native beauty as developed in America is the outgrowth of such heterogeneous elements, such a conglomeration of nationalities, the interfusion of so many races and types, that any attempt to classify or even account for it, save as American, is futile. It is undeniable that climatic influences, freedom from old-world measures of restraint, and the diversity of our scenery, are forces which have contrived, unconsciously but effectively, to produce indigenous types."

Well, the indigenous type here is peculiar to the verge of the pathological. The women are almost all thin, haggard of feature, anxious, and apparently careworn in countenance. At twenty-five they look more wrinkled, sallow, and worn than they do home at forty. Many of them positively seem cachectic. You could readily fancy having found a colony where mammary carcinoma had become epidemic, and where wholesale amputation of the female breasts had become a matter of public safety, without, however, having successfully stamped out the dreadful visitation or eliminated the prevailing cachexia.

A large proportion of the babies and children also look more like the puny, under-fed products of our reeking tenements, than the plump denizens of a healthful provincial town. I understand that the servant question is held responsible for some of this mischief. Wet-nurses are hard to obtain. The mothers are willing enough, but generally find themselves in much the same fix that confronted the cherubim, when politely asked by St. Cecilia to be seated. They said: "*Avec plaisir, madame, mais nous n'avons pas de quoi.*"

The Gallinipper.—From humanity we get by an easy gradation to the gallinipper, who is a much maligned and greatly overrated institution of the New South. It is true, he is big, black, and burly. He comes early and often, and he stays late, just like the front-parlor young man, when getting engaged. At first sight you are inclined to enter into diplomatic negotiations with him, to treat his liberal advances with distinguished consideration. But on better acquaintance you learn to cut him dead, and cut him quick. There is no Wagner in him, only the timid tinkle

of Italian opera. He has no vim. A tired rattlesnake might hold more poison. Alongside of a fairly healthy Jersey mosquito (and there are such), or even a South-Side Long Islander, just out of his teens, he is a pale figment of fiction, an Eden Musée imitation, a thing to be laughed at and treated with scorn, or gentlest slaps at most. For a real tap would spoil him quicker than a keg of lager on a close election. In the prime of his manhood the gallinipper is as weak as circus-lemonade. When he has done his level worst you feel tempted to exclaim: "Oh, galli, where is thy sting! Oh, nipper, where is thy misery." Gentlemen of the South, if you *must* know what a well-bred family of mosquitoes can do, take a Long Branch dude with his bold aquiline profile in *haut relief*. Take him after a mild evening stroll on what was formerly a beach. Take him, and inspect him, and if you like, keep him, though the chances are you won't want to long. But as for bites—the most exacting artist could easily utilize him for a study in wheal-life.

Sapienti sat. And so will I.

EDMUND CHARLES WENDT, M.D.

BIRMINGHAM, ALA., June, 1890.

THE AGE OF GRADUATION FOR MEDICAL STUDENTS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your editorial in the last issue of your valued paper, you comment unfavorably upon the advanced age that most of those graduating at Harvard must attain, and recommend that those students who contemplate studying medicine after graduation should go to some small college, where they may obtain a degree when they are twenty years of age. For my part, I believe that your contention that two or three and twenty is too old to begin the study of medicine is well-founded, and, strange as it may appear, the Faculty of Harvard College seem to take the same view of the matter; for they have voted to grant the bachelor's degree to students completing courses of study that can be accomplished in three years after matriculation. The Corporation of the College has approved this action of the Faculty, and the consent of the Board of Overseers is now all that is needed to make the action final. I dare say that the latter body will readily acquiesce. As the average age of entrance is about eighteen, a good student may easily graduate at one and twenty. And surely, Mr. Editor, a Harvard degree at twenty-one is greatly preferable to that of some small college at twenty. The prestige of the place alone, not to mention its fine laboratories and excellent appliances for the pursuit of natural history, chemistry, and other studies that are most essential to the prospective medical student, far outweigh the disadvantage of remaining in the university one year longer.

It seems only fair that you should give publicity to this action on the part of the governing boards at Harvard, partly on account of your own animadversions in the editorial spoken of, and because shortening the required course a year will prove a great boon to many students who cannot afford the money required for a four years' course.

Those not desiring to graduate in three years can of course take a longer time, or can, after taking the bachelor's degree, remain at the university and study for a higher degree.

Harvard is now taking the final steps toward making herself a true university, and I submit, Mr. Editor, that she deserves much credit for what she has done for the cause of higher education in America.

Respectfully yours,

R. C. NEWTON, M.D.

MONTCLAIR, N. J., June 18, 1890.

Generous Rivalry.—Generous rivalry is sometimes carried to such an extent in professional struggles, that the strivers are very apt even to give each other away.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 22 to June 28, 1890.

TAYLOR, MARCUS E., Captain and Assistant Surgeon. Granted leave of absence for one month, on surgeon's certificate of disability, with permission to go beyond the limits of this division, and to apply for an extension of five months. Par. 1, S. O. 45, Division of the Pacific, San Francisco, Cal., June 13, 1890.

GREENLEAF, CHARLES R., Major and Surgeon. By direction of the Secretary of War, will attend the encampment of the Pennsylvania National Guard at Mount Gretna, Pa., from July 18 to July 26, 1890, for the purpose of accompanying the Surgeon-General of Pennsylvania in his inspection of the camp. Par. 11, S. O. 144, A. G. O., June 20, 1890.

KEEFER, FRANK R., of Pennsylvania. To be Assistant Surgeon, with the rank of First Lieutenant, June 6, 1890, vice Woodruff, promoted.

RAYMOND, THOMAS U., of Indiana. To be Assistant Surgeon, with the rank of First Lieutenant, June 6, 1890, vice Newton, resigned.

SNYDER, HENRY D., of Pennsylvania. To be Assistant Surgeon, with the rank of First Lieutenant, June 6, 1890, vice Wilson, resigned.

SMITH, ALLEN M., of New York. To be Assistant Surgeon, with the rank of First Lieutenant, June 6, 1890, vice Matthews, promoted.

HEYL, ASHTON B., of Pennsylvania. To be Assistant Surgeon, with the rank of First Lieutenant, June 6, 1890, vice Hall, promoted.

CLARK, JOSEPH T., of New York. To be Assistant Surgeon, with the rank of First Lieutenant, June 6, 1890, vice Porter, resigned.

CULBERTSON, HOWARD, Captain (Retired). Died June 18, 1890, at Zanesville, O.

BORDEN, WILLIAM C., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for three months and fifteen days, to take effect as soon as his services can be spared. Par. 11, S. O. 141, A. G. O., June 23, 1890.

SUTER, WILLIAM N., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for two months, to take effect August 6, 1890. Par. 3, S. O. 149, A. G. O., June 26, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending June 28, 1890.

PAGE, JOHN E., of Berryville, Va. Commissioned Assistant Surgeon in the Navy.

KENNEDY, ROBERT M., of Pottsville, Pa. Commissioned Assistant Surgeon in the Navy.

WHITFIELD, JAMES M., of Richmond, Va. Commissioned Assistant Surgeon in the Navy.

STONE, LEWIS H., Litchfield, Conn. Commissioned Assistant Surgeon in the Navy.

ATLER, LOUIS W., Assistant Surgeon. Detached from Marion and granted three months leave of absence.

Scotch Diagnoses.—According to the report of the Glasgow medical inspector, nearly eight per cent. of the persons sent to the fever hospital were found to have been incorrectly diagnosed, and of this number fifty-seven per cent. suffered from no contagious disease whatever.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 28, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	11	1
Scarlet fever	29	6
Cerebro-spinal meningitis	1	3
Measles	281	27
Diphtheria	99	27
Small-pox	0	0
Varicella	7	0
Pertussis	0	11

The International Congress in 1893.—There has been some talk of inviting the members of the International Congress to hold the next meeting in Chicago in 1893, during the progress of the world's fair there. As the Congress met in this country in 1887, and as there is still some uncertainty in the minds of many people outside of Chicago whether there will be a fair there at all, it hardly seems worth while to extend an invitation which will only be refused.

Exorcism of the Pest Demon in Japan.—Dr. C. H. H. Hall, of the United States Navy, in a series of notes upon certain medical customs of the Japanese, appearing in the *Sei-I-Kwai Medical Journal*, speaks of the curious belief in the demon who causes epidemic diseases, and who seems to be a sort of enlarged and supernatural microbe. His name is Yaku-iin-no-kami, and his habit is to come and sit by the side of the sick person, much to the detriment of the latter. The method of driving away this evil spirit is, Dr. Hall writes, as follows: A kannushi, or Shinto priest. makes a preliminary visit to the sick-room to extract from the demon a promise that he will depart with him at his next visit. The priest returns on the following day, and, taking a seat near the patient, beseeches the evil spirit to come away with him. Meanwhile red rice (used only upon special occasions) has been placed at the patient's head, a *kago*, or inclosed litter, made with pine boughs, is brought in, and four men armed with flags or other weapons have entered and stationed themselves in the corners of the room to prevent the demon from taking refuge there. All are silent but the priest. When the prayer is ended, the patient's pillow is hurriedly thrown into the *kago* and the priest cries "All right now!" The *kago* is then hastily taken out into the street and the people within and without begin to shout and beat the air with swords, sticks, or anything at hand, while others beat upon drums and gongs. A procession is quickly formed, composed wholly of men, all of whom wear fillets and horns of twisted straw to keep the demon away from themselves. Banners, a drum, a bell, a flute, and a horn are carried. One man chants, as they move away, "What god are you bearing away?" The others reply in chorus, "The god of the pest we are bearing away!" then the drum, the bell, etc., are sounded. While the procession passes through the town all who are not taking part in the ceremony remain indoors, all houses along the way are carefully closed, and at the cross-streets are stationed men armed with swords who guard that street by cutting the air to right and left lest the demon escape by that way. The litter is borne to some retired spot between two towns, where it is left for a time and all who came with it run away, except the priest, who remains for half an hour to complete the exorcism by some sort of magic, after which the patient recovers. Those who carried the litter spend that night in prayer within a temple, and return home next day after a cold bath in the open air, lest they take the demon back with them. One *kago* is used in common by the town, the lightest case being visited first.

Four Children at a Birth.—A pretty well authenticated story comes from a Pennsylvania town concerning the birth of quadruplets to a woman in that place. The four children, all girls, have been baptized under the names of Agnes, Aloysia, Agatha, and Ada. The pictures of the children have been taken and are being sold for the benefit of the family. The unhappy father was somewhat consoled the other day by the receipt of the deeds of six town lots from a land company in Colorado, who have named certain streets of their town after the four children and their parents.

The Etiology of Jacksonian Epilepsy.—Since this form of disease was first described several conditions have been enumerated as giving rise to it, among others the occurrence of parasites in the brain, to which group belong two cases reported by Dr. Yamagiwa. The chief points noted in the author's examination of the bodies were: 1. Disseminated, circumscribed groups with worm ova, and mostly with inflammatory cells in the cortical substance of the brain. 2. Localization of these changes in the occipital, parietal, and central lobes. 3. New connective-tissue formation and round-cell infiltration around the foci of disease. 4. Thickening of the vessel-walls, especially of the adventitia, and obliteration of single twigs. 5. Foci of disease in the lungs, also with worm ova and inflammatory cells. As regards the nature of the mother of the ova, the author believes that they should be assigned to distomum pulmonale. His grounds for this are: (*a*) their size; (*b*) their form, since no human brain parasite has up to the present been described which lays such ellipsoidal ova as distomum pulmonale, or D. cerebrale, as this form may be called. The chief points in this case are as follows: A. Pathological. (1) Attacks of left-sided convulsions. (Later these became general, but always commenced and were stronger on the left side.) (2) Disturbances of sight in the left eye (the right slightly shared in this); indistinct vision, etc. (3) Proportionately slight paralysis of the extremities. B. Physiologically this case is interesting, in so far as it confirms the position of the centre of sight in the occipital lobes, and affords further proof of the relation between convulsions and cortical lesions. C. The occurrence of distomum as a new kind of brain parasite is interesting, especially in a region where distomum is so common as in Japan. D. Diagnostically and prognostically: in cases where patients are affected with disease of the lung due to distomum, the possibility should always be borne in mind that a worm or ova embolism may take place in the brain. It will also be a useful thing to examine the sputum for distomum ova when any person in a distomum region is affected with cortical epilepsy.—*Medical Recorder.*

Albuminuria Caused by Morphinism.—At the meeting of the Société Médicale des Hôpitaux on May 9th, Dr. Huchard pointed out (*L'Union Méd.*, No. 58) that the abuse of morphia sometimes causes albuminuria, which leads to death by uræmia. Levinstein has published seven such cases, and Dr. Huchard contributed three others, all fatal from uræmia. As to the connection between the renal disease and morphinism, Dr. Huchard suggested that it might be through the action of the poison on the medulla, or by long-continued diminution of arterial tension; for he has found that morphine lowers arterial tension considerably, thus favoring passive congestion in the organs, the kidney among others. According to him, whereas excessive arterial tension will ultimately bring about arterio-sclerosis, a persistent lowering of tension can lead to Bright's disease. Obviously, Dr. Huchard does not here speak of granular kidney, which is associated with high arterial tension.—*The Lancet.*

A Just Observation.—The man who remains abstemious where no liquor is to be had does not deserve much credit, but the man who is temperate when the sparkling champagne stands beside his plate merits our approbation.—*Journal of the American Medical Association*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 2. **Whole No. 1027.** NEW YORK, JULY 12, 1890. **$5.00 Per Annum.** **Single Copies, 10c.**

Original Articles.

AN EXPLANATION OF THE PHENOMENA OF IMMUNITY AND CONTAGION, BASED UPON THE ACTION OF PHYSICAL AND BIOLOGICAL LAWS.[1]

BY J. W. McLAUGHLIN, M.D.,
AUSTIN, TEX.

CONTAGION consists in the transmission of communicable diseases from one individual to another through the agencies of contagia, the efficient causes of all contagious diseases; these contagia may be communicated by contact, through the atmosphere, or from infected articles, fomites.

Immunity signifies that condition of the body which opposes the development of contagious processes. The principles involved in the causation of contagion and immunity, therefore, lie at the very foundation of all knowledge of those laws which control infectious diseases.

The importance and wide application of these principles, and the successful efforts which nature has made in concealing them from man's knowledge, have stimulated him to great and laborious investigations, and have resulted in the production of many ingenious theories.

This subject has occupied a large share of my attention for many years. From observing nature's methods in other departments of science—how, through the action of physical laws, physical results are obtained—the conviction grew upon me that this method furnished the key that would unlock our problem. The subject was so complex, the observed phenomena were apparently so diverse and even contradictory, that a long time elapsed before I was able to report any progress. In 1887 I published the first results which I obtained by this method.[2] Notwithstanding the subject was still very hazy at that time, I could see how the laws of wave-motion, when applied to the motion of organic molecules, would explain some of the phenomena of contagion, but the complete elucidation of the subject had not yet dawned upon me. Francis Galton says: "Few intellectual pleasures are more keen than those enjoyed by a person who, while he is occupied in some special inquiry, suddenly perceives that it admits of a wide generalization, and that his results hold good in previously unsuspected directions." While thinking over the phenomena of contagion and immunity, and the laws of wave-motion, the beautiful law of interference occurred to me, when it flashed over me that the application of this law to molecular wave-motion completed the chain of evidence. I felt very much as I imagine did Archimedes when he sprang from his bath and ran naked, shouting "Eureka," through the streets of Syracuse.

Time will not allow an attempt to kaleidoscope the history and varied opinions regarding contagion; suffice it that in this, as in the evolution of other questions of science, the theories offered from time to time were based upon such information of the subject as was then known, and all possess some truth.

In the light of our present knowledge it can be safely asserted that contagium is a particulate substance; that it is capable, when suitably environed, of increasing itself indefinitely by multiplication of its particles; that in this increase it produces only its own kind, and does this as unerringly as do animal or vegetable species in their increase by generation. Thus a very small portion of small-pox virus or contagium, if inoculated under the skin of a susceptible person, will multiply and increase itself in the blood of this person, and pustules will form upon his body which will contain the same character of contagious substance, possessing the same distinctive properties, as that used in inoculation.

Or, a person with an infectious fever may infect a hundred or more persons with the same disease, transmitting to each one the amount and kind of contagium that he himself received at the time of his infection.

There is no known substance, neither a solid, a liquid, nor a gas, save and except a living organism, which is capable of increasing and multiplying its own kind in the manner thus described.

The striking similarity which is seen between fermentation and contagion has led many observers to believe that the latter, like the former process, is caused by microscopic organisms. As there are many kinds of fermentation, each kind resulting from the action of specific organisms—for example, alcoholic fermentation is caused by the yeast plant; acetic fermentation by the micrococcus aceti; butyric fermentation by the bacillus amblyobacter, etc.—so it is claimed that each specific infection has its specific bacterium or bacteria. I do not think that it can be maintained that only one species or variety of bacteria will produce a specific infection, for example, a specific infectious fever. It is well known that fermentation—alcoholic, acetic, or butyric—may result from the action of more than one kind of ferment or bacteria. Hence, if the analogy between fermentation and contagion is sound, there are grounds for believing that more than one kind of bacterium may cause a specific infection; for example, diphtheria, cholera, and other infections may each be caused by one or more kinds of bacteria.

A bacterium is a one-celled vegetable micro-organism or plant, which is so very small that the highest powers of the microscope are often needed to render it visible. It is composed of a complex substance called protoplasm, which Huxley has named "the physical basis of life." The cells have no visible nucleus, and may or may not have a limiting cell-covering.

All classifications of bacteria are provisional, yet it is convenient to arrange them according to their growth-forms as they are at present understood. When the cells group themselves singly or in masses, which are more or less characteristic, they are termed micrococci. Those growth-forms characterized by the cells being joined together end to end to form rods or spirals, are called bacilli or spirilla. When the vegetative cells or spores of future bacteria grow within the bodies of bacteria they are classed as endosporous varieties. On the contrary, when the spores are formed differently, that is, outside the bacteria, they are said to belong to the arthrosporous variety.

Those bacteria which find in other organisms alone conditions suitable for their growth and development are called parasitic bacteria, while those forms which live upon dead substances are called saprophytes. In whatever form or shape the bacteria are found, whether as cocci, rods, or spirals, they are always one-celled organisms; and however much these cells may resemble each other

[1] Read in the Section of Practice, Materia Medica, and Therapeutics of the Texas State Medical Association, held in Fort Worth, Tex., April 22, 23, 24, and 25, 1890.

[2] Etiology of Acute Infectious Diseases, Daniel's Medical Journal.

in their appearances, these resemblances cease to exist when we compare the character of work which these cells are capable of doing. Vegetable and animal cells differ in this respect among themselves as greatly as do the animal or vegetable substances composed of such cells. We are familiar with the various kinds of tissue-cells of which the human body is composed; we know that some of them are glandular and are connected with the secretion of bile, gastric juice, etc.; or in the separation from the blood of certain products of tissue metamorphosis; that others enter into the formation of the nervous system, and are connected with volition and motion, others form bone or cartilage or muscle, etc. Vow, the single-celled vegetable organisms known as bacteria differ as greatly among themselves in the character of work which they perform as do the tissue-cells of the human body. A few illustrations of this fact will not be amiss. We will briefly refer to the kind of work done by the micrococcus ureæ, the nitrifying bacteria, the bacteria of the mother of vinegar, the bacteria of lactic-acid fermentation, and the bacteria of the decomposition of proteids.

The micrococcus ureæ consists of round cells, microscopic in size, which may be formed singly or joined end to end like a string of beads; this organism converts urea into carbonate of ammonia; it is capable of doing this not only in the urine, but a pure culture of this organism will do the work just as readily if added to a solution of urea.

Micrococcus nitrificans consists also of small round cells. This organism or microbe converts the compounds of ammonia which are found in the soil, or added to it for fertilizing purposes, into saltpetre, which is appropriated by growing vegetation. It might appropriately be called the granger microbe, for through its influence the growing crops are enabled to utilize the ammonia compounds of the soil, which would be useless without this agency. A pure culture of this microbe, if added to an artificial nutrient solution containing compounds of ammonia, does its work as effectively as though it were at home in its native soil. Micrococcus aceti, another small round cell, is the agent by which alcohol is converted into acetic acid; the various methods used in the arts for the making of vinegar are based upon the power of this microbe of converting watery solutions of alcohol into acetic acid.

Micrococcus lacticus occurs in the form of minute cylindrical cells, and is the microbe chiefly concerned in the souring of milk, by converting the sugar it contains into lactic acid.

Bacillus amblyobacter is the microbe of butyric-acid fermentation. It vegetates in the form of slender cylindrical rods, and is one of the most widely diffused and important and varied in its powers of decomposition. In addition to the important part it plays in the manufacture of cheese, it is a specially active agent in destroying the cellulose of cell-membranes in the decomposition of decaying plants. In the process of rotting hemp, flax, and other textile plants, in order to obtain the fibres, this microbe plays the all-important part. Van Tiegham attributes to this organism an important part in the nutrition of ruminant animals. He claims that it vegetates in their stomach and splits up the cellulose of their food into soluble products. For illustration of the bacterial decomposition of the proteids we will refer to the bacterium termo (the drum-stick bacillus of putrefaction). Its uses in the economy of nature—for example, in disposing of dead animals—are sufficiently apparent to require no specification. Were it not for this microbe it would be a serious matter to know how to dispose of dead bodies. If it was necessary many other examples of friendly microbes, those necessary to man's comfort or his safety, could be cited to illustrate the power which these organisms have of decomposing or splitting up many substances. It will be seen, however, from what has already been said, that there is a striking difference among these lowly cells as to the character of fermentation or kind of work which they are capable of doing; thus one variety causes acetic, another butyric, and yet another lactic acid fermentation.

One of the objects of this paper will be to establish as a fact that the principles involved in fermentation are the same, regardless of the exciting cause, and that the products of fermentation will largely depend on the molecular structure of the exciting ferment. Before entering upon this subject I shall invite your attention to certain phenomena attending fermentation, and for illustration will describe that form which results in the production of alcohol. It is well known that vinous fermentation has for its ferment, or exciting cause, a one-celled vegetable organism generally known as the yeast fungus, and that brewers' yeast is entirely composed of these cells. When, under suitable conditions, yeast is added to a solution of malt, called "wort," fermentation will ensue and alcohol will be the principal resulting product. One of the substances which the "wort" contains is sugar, and it is this sugar which the yeast-cells decompose and convert—at least ninety-five per cent. of it—into alcohol. The yeast-cells, like other organisms, multiply themselves by the generative act and thus increase in amount, so that the amount of yeast is a thousand-fold more at the end of fermentation than it was at the beginning. Alcohol, the principal product of vinous fermentation, is poisonous to the yeast-cells, and when, during the process of fermentation, a certain per cent. of alcohol is formed, fermentation at once ceases and cannot be re-established until the alcohol, or a considerable portion of it, is removed. That fermentation occurs only in contact with the yeast-cells, and does not result from a hypothetical enzyme secreted by them, is established in the following way: Divide the fermenting vat or vessel into two parts by a membranous diaphragm, so that no substance can pass from side to side except through the interstices of the membrane. Put your solution of malt equally into both sides, but put the yeast in one side only. Now, all soluble enzymes, or other soluble substances contained in the malt solution, can readily pass through the diaphragm by osmosis, from one side to the other, forward and backward, but the insoluble yeast-plants are confined strictly to the side into which they were placed. Under these circumstances fermentation has been found to occur only in that side of the vessel in which the yeast-cells have been placed. An interesting, and, for our purpose, an important, fact connected with this subject has been established by Oscar Brefeld, who, by a peculiar artifice, has so modified the yeast-cells in their structure that they can be made to grow and multiply in the solution of malt without producing a particle of alcohol;[1] the bearing of this fact upon one of the phenomena of contagion will become apparent further along. We are now prepared to point out the striking similarity in phenomena of fermentation, as set forth, and the phenomena of contagion.

Both are caused by one-celled vegetable organisms; these cells in each case are microscopic in size, and can be conveyed from place to place in various ways that will readily suggest themselves, and therefore require no special mention.

The cells of bacteria, like the cells of the yeast-plant, excite fermentation and decomposition when they are suitably environed. In the same manner that yeast-cells decompose sugar into alcohol, the cells of the micrococcus ureæ convert urea into carbonate of ammonia, the cells of the micrococcus nitrificans convert ammonia compounds into saltpetre, the cells of micrococcus lacticus convert sugar into lactic acid, and pathogenic bacteria-cells convert certain albuminoid molecules of the blood or tissues, of man and animals, into poisonous substances, ptomaïnes or toxines.

And again, as alcohol is poisonous to the yeast-cells and will arrest the fermentation which they excite, and by which it was produced, so ptomaïnes and toxines, the products of infection created by the cells of pathogenic bacteria, poison the bacteria which caused their exist-

[1] Fermentation, Encyclopædia Britannica.

ence, and arrest the fermentation or infection which gave them life.

And finally: As the yeast-cells can be so modified in their molecular structure that they can be caused to grow and multiply in malt solution without producing alcohol, in a similar manner the cells of some pathogenic bacteria can be so modified by "attenuation," in various ways, that they are not only made harmless to man, but become a vaccine by which protection from the virulent microbes may be secured.

In all the examples of fermentation which have been cited, or, as a matter of fact, in all fermentations or infections, the products resulting from these processes, whether it be carbonate of ammonia, acetic acid, saltpetre, lactic acid, alcohol, or ptomaïnes or toxines, are invariably caused by cells decomposing or splitting up certain substances contained in the nutritive solution.

It behooves us, then, to inquire into the mechanism of this wonderful little cell, and to ascertain how, or by what method, it is capable of doing this work. At the outset, let me say that there are many things pertaining to the life-history, physical structure, and mechanism of the cell which are not understood; in fact our knowledge of cell life and structure, beyond what is revealed by the microscope and chemistry, is very meagre. This subject offers an immense field for speculation and theory which has not lacked cultivation. When there are not sufficient facts with which to build a theory, speculation becomes necessary to complete the structure, and often answers an excellent purpose, provided it is constantly guided and limited by established laws of chemical and physical science, and provided, also, that the theory thus constructed is found to be competent to explain the phenomena connected with, and belonging to, the subject. Now, the theory of cell-action which I offer, although largely speculative, complies with the conditions just stated. For a better understanding of this theory I will premise its discussion by the following statement of physical laws:

An elementary substance is the simplest known condition of matter. An atom is the ultimate part of such substance.

A compound substance is composed of dissimilar atoms. A molecule is the smallest division of a compound substance which has the properties of the substance.

Each and every atom has a natural period of vibration from which it cannot be separated.

Force, the efficient cause of all physical phenomena, is motion—atomic, molecular, or molar. Attraction, light, heat, and electricity are manifestations, or modes, of one and the same force; they are co-ordinate and subject to the laws of transmutation of energy.

As atoms have their equivalents of motion—for example, their laws of attraction, repulsion, and combination—which are inseparable from them, it follows that, when atoms combine to form complex substances, each one carries into the combination its equivalent of force or motion; this may be modified by the motion of associate atoms, but is never lost, and when a dissolution of the compound takes place, the departing atoms carry with them the same amount and kind of motion which they had originally.

All atoms, whether combined or uncombined, are in constant motion.

The atomic motions of each element observe definite periods of time in their recurrence.

Atoms of different elements observe different periods of time in their movements.

These prefatory remarks prepare us to recognize our little microscopic cell as a complex molecular substance possessing energy, and that this energy or power to do work is the result, and represents the total motions, of its contained molecules. If it was possible to magnify one of these cells to a size sufficient to enable us to see its atoms and molecules, what a wonderful sight would be offered us! How astonishing it would be to witness the arrangement of its millions of molecules, and millions upon millions of atoms, all in constant motion, and, under the rule of nature's laws, working harmoniously together for the common good. But even if it was possible, through any device of science or art, to witness the molecular structure and movements of a cell, we would yet be only upon the threshold of our investigation, and would still have much to learn regarding the life-history of the cell.

If all the facts of cell-life were known, then life itself would cease to be a mystery. It would become as an open book, because a knowledge of cell-life carries with it a knowledge of animal and vegetable life, inasmuch as animals and vegetables are simply arrangements, more or less complex, of cells arranged and differentiated, in accordance with natural laws, to perform various functions of the organism. It may, then, be safely asserted that within the compass of a little microscopic cell is concealed the mystery of life, and it is not improbable that life itself had its first manifestation, on this planet, in cell-structure. In matters of lineage, the cells are preeminently the oldest inhabitants of the world; almost from the beginning of time, certainly from the beginning of organized life, these little bodies have been fighting for existence, and perhaps, like more complex but less humble organisms, have struggled for a betterment of their condition.

I can see no reason why the laws of descent and heredity should not apply with the same force to cell-life that they do to organisms of complex cell-life. If this is true, and the development of unicellular organisms occur along the same lines, and is governed by the same laws which control the development of multicellular organisms, then, in the early history of cell-life, certain complex molecular substances, favored by the peculiar environmental causes which must have prevailed at the time, developed into a multiplicity and diversity of cells. The differences manifested by the innumerable varieties of cells thus created would depend upon the differences in their molecular arrangements, and would cause the different varieties to develop in different directions; those varieties which were found to be in the best harmony with their surroundings, best fixed in their molecular combinations, best able to successfully resist injurious influences, which perhaps would be fatal to the less favored sort, are the ones which would survive the struggle for existence and be selected by nature for propagation purposes. Now, as these selected varieties would transmit to their progeny their structural advantages, and from this progeny nature would again select the fittest, thus, in accordance with the laws of heredity and selection, there would be a progressive development of selected varieties from generation to generation, through the long period of time since cell-life first began. In harmony with, and as a result of, these laws of nature, cells and cellular organisms, in constantly adapting themselves to environmental causes, which themselves have been mutable and have been subject to the laws of progressive development, have passed from the simple to the complex, and from the undifferentiated to the differentiated cell-structures. Prominent among the environmental causes which determine the life and development of cells and cellular organisms are climate and cell-antagonisms.

Climatic influences are important factors in determining the geographical distribution of bacteria. For the same reason that every country has its own peculiar flora and fauna, it has also its indigenous bacteria. And as the flora and fauna may, by artificial means, be to some extent acclimated in foreign soil, so nature has provided that bacteria, when conveyed to foreign countries, may, under favorable atmospheric and climatic conditions, find in such countries conditions suitable for their growth and multiplication, at least for a time. In these facts are found an explanation of epidemic diseases which at times sweep over the country.

The subject of cell-antagonisms is receiving a great deal of attention from men of science. It is generally

conceded that these innocent-looking little bodies do not dwell together in peace—on the contrary, they are constantly warring upon each other. In this "battle of cells," which has been waged since the beginning of cell-life, the survivors have learned, or acquired through heredity, certain means of attack and defence. It can be readily seen why qualities thus acquired and transmitted by heredity would be more firmly fixed in the cells of complex organisms, thus giving such organisms important advantages over simpler ones in the battle of cells. It will be observed, however, as in the battles between men, so in the battles between cells, skill does not always succeed against numbers.

In the light furnished by these facts we will endeavor to explain in what manner, or by what method, the cell excites fermentation and causes decomposition of complex substances.

Picture in your mind's eye the marvellous mechanism of one of these little cells, with its contained molecules in active motion; remember the molecules are not in contact, but separated from each other by spaces which, although infinitely small to our comprehension, are really large when compared with the size of the molecules; remember, also, that the molecular movements are not of the hap-hazard sort, but are governed by fixed laws, and that while similarly constructed molecules have similar modes of motion, there are marked differences, in this respect, between molecules of dissimilar construction. As the molecule receives its motion from its constituent atoms, the cell must receive its energy from its constituent molecules. Remember that atomic and molecular motion constitute force, so that, when we speak of cell-motion we mean to imply cell-force, its power to do work, and the explanation which is offered will follow almost as an inevitable result.

The explanation of differences in cell activities is based upon the law that force, the efficient cause of all physical phenomena, is motion—atomic, molecular, or molar; that heat, light, electricity, attraction, and repulsion are simply modes of one and the same motion, which can be converted or changed from one into the other. Now, there is a marked difference in the kind of work which these different forces or modes of motion can do; for example, electricity can decompose many substances that light does not affect; on the other hand, light decomposes other substances over which electricity has no power; while heat, in its decomposing power, has a much larger range of action than either of the others.

The way or method by which these forces do this work, each of its own kind, can be better understood by means of an illustration. When a musical sound or note is made by any instrument, for example with a violin, in a room containing an open piano, the same note will be sounded by this instrument. Now, sound is a mode of vibratory motion, and in the example cited, when the string of the violin is vibrated so as to cause a musical note, this vibration is communicated to the surrounding air, and any musical instrument within reach of any of these sound-waves, if tuned in unison with them, will be thrown into vibration by them and produce the same note; the other strings or chords of the piano remain silent for the reason that they do not vibrate in unison with the note made by the violin; more correctly speaking, only that chord will vibrate whose period of vibration is equal to that of the string.

In the ears of all animals there is an arrangement of rods and hair-cells constituting what is known as the organ of Corti; this has been likened to a "harp of a thousand strings." I do not vouch for the supposed resemblance to a harp, but it at least can be asserted that the rods and hair-cells are arranged in such a manner that they can vibrate in unison with all vibrations whose period of time lies within certain limits. Some of the rods or hair-cells are tuned in unison with one note; that is, they vibrate in the same period of time, while others are vibrated by other notes. In every instance, however, the little rods and hair-cells take up the refrain, or are vibrated only by those sound-waves having the same period of vibratory recurrence.

Light is another mode of motion, and, like sound, has its waves, which differ among themselves in their periods of recurrence. The different colors of light are produced by the different wave-lengths. In the retinal coat of the eye there are little rods and cones which vibrate in harmony with the different wave-lengths of light; some are vibrated by one color and others by other colors. In every instance the vibrations of light must be in unison with that of the rod or cone before the color can be recognized.

When waves of light or heat or water meet other waves of the same substance, in such a manner that the crests of one set will correspond with the crests of the other set, and the troughs of one will correspond with the troughs of the other, the waves will be enlarged, increased in amplitude.

Now, it is assumed that different varieties or species of cells have molecular vibrations which, in their periods of recurrence, are distinctive of such species or variety; hence the molecular movements of cells are influenced in a certain way by other cells whose molecular periods of vibration coincide with those of the first in point of time. The wave-crest and trough from one cell striking the molecular waves of another cell less firmly fixed in its structure, crest to crest and trough to trough, the motions of the first would necessarily increase the swing of the second until the cell-molecules were swung beyond their attractions and the cell disrupted. The cell-molecules thus set free would recombine in accordance with chemical laws to form simpler compounds; for example, in the vinous fermentation the molecular combinations of the yeast-cell are so timed in their motions that they can swing the molecules of sugar, held in solution, beyond their chemical attractions, and thus cause a disruption of the sugar; at the same time the molecules or atoms thus liberated recombine to form a simpler compound, alcohol. Other cells cannot do this work, for the reason that their molecules do not vibrate in the required periods of time. In the same manner the micrococcus aceti decomposes alcohol into acetic acid, and other bacteria perform their special kinds of work and are incapable of doing the work of other varieties. In the same manner, pathogenic bacteria shake apart certain cellular albuminoid molecules in the blood or tissues of man and animals, while the recombination of molecules thus liberated form poisonous alkaloids called ptomaïnes and toxines, which are the immediate causes of the symptomatology and pathology of infectious diseases. The decomposition of albuminoid molecules by cell metabolism, principally bacteria-cells, and the influences which the products of this action, ptomaïnes and toxines, have in the causation of disease, is a subject of greatest importance to the physician.

The albuminoid molecules, from whatever source derived, present certain lines of separation, like the lines of cleavage in crystals, along which they are most easily disrupted or shaken apart by cell-vibrations; hence the character of the decomposition product depends along which of these lines separation has taken place. "At least three distinct series of chemical bodies are formed, viz., an acid series, an aromatic series, and a basic series. Out of the innumerable products arising from the action of bacterial cells upon albuminoid molecules, and which have been extracted and studied, will be mentioned indol, cresol, and skatol in the aromatic series, creatine in the basic, and uric acid in the acid series, serving only as mere examples" (*Journal of the American Medical Association*). "Cells other than those of bacteria are also capable of decomposing albuminoid molecules, and thus produce poisonous substances, *e.g.*, in the physiological changes from albumins to peptones there is a change from innocent to toxic bodies; this may be illustrated by the hypodermic injection of the digestive leucomaïne of fibrine by pepsin. It occurs practically when, after the

too hearty meal, the liver is unable to care for the excess of digestive leucomaïne, and they escape into the general circulation, producing somnolence, lassitude, or even stupor" (*Journal of the American Medical Association*).

On this subject Dr. Joseph Leconte says: "The leucomaïnes, although formed by normal physiological process, are highly poisonous and inimical to health, unless speedily eliminated by appropriate organs. If, now, there should be a failure to eliminate these toxic elements, the results would be similar to those produced by disease germs, except that they would lack the quality of contagiousness, because they are not due to the presence of microbes. The liver is the organ principally concerned in the elimination of leucomaïnes" (*Journal of the American Medical Association*).

"If alkaloids, by the conjugation of Sibiliary acids, if carbo-hydrates they escape the liver, and are taken care of by the blood and pancreas. If belonging to the class of phenols they are combined with a sulphuric radical, and when that gives out, are then combined with glycosuric acid and thus rendered innocuous" (*Journal of the American Medical Association*).

It is thus shown that fermentation may be the result of molecular motion, and that this process would take place whether the necessary vibrations originate in the yeast-cells, the bacteria-cells, or digestive ferments, which are the efficient cause of normal digestion. The principles involved in each case, the *modus operandi*, are the same in all. At this point, however, the similarity of results existing between bacteria ferments and digestive ferments ceases. There is an important difference in their biological history, which carries with it an important and practical distinction. I refer to the fact that bacteria and yeast-cells are living organisms, capable of multiplying themselves by the generative act, and hence, in the case of pathogenic bacteria, are capable of inducing contagious and infectious diseases. On the other hand, the digestive ferments are molecular combinations, which have no powers of self-multiplication, and cannot cause disease of an infectious or contagious character. There is a wise and beneficent law of wide application, the operation of which controls the course and duration of infectious fevers; this law is based upon the fact that the products of cell-decomposition are poisons which destroy the cells, or the fermentation, or infection which they excite. Thus alcohol is destructive to the yeast-cells and the vinous fermentation, while acetic acid, butyric acid, and lactic acid will arrest the fermentations of which they are the products, and, in the same manner, ptomaïnes and toxines arrest the infectious diseases of which they are severally the causes.

On this subject Dr. Klein says: "One of the most interesting facts observed in the growth of septic micro-organisms is this, that the products of the decomposition, started and maintained by them, have a most detrimental influence in themselves, inhibiting their powers of multiplication; in fact, after a certain amount of these products have accumulated, the organisms become arrested in their growth, and finally may be altogether killed." [1]

Pasteur says: "Many microbes seem to give rise during their breeding to substances having the property of being harmful to their own growth." [2]

It is evident that the periods of time in which occur the molecular vibrations of any given cell must swing in perfect unison with the vibrations of any other cell, or molecular structure, before the first can swing apart the molecules of the second. Crest must correspond to crest, and trough must correspond to trough, before the one set of vibrations can sufficiently increase the other to cause its disruption. When the arrangement is complete, *e.g.*, the vibrations of the bacteria-cell coincide in their periods of recurrence with the molecular vibrations of the albuminoid molecular substance, and decomposition of this results, thus liberating its constituent molecules.

[1] Micro-organisms and Disease.
[2] Comptes rendus, Academy of Sciences, October 26, 1885.

It is evident that no new compound can form from these molecules unless its periods of vibratory recurrence do not coincide in point of time with those of the bacterium cells; the same influence which disrupted the albuminoid molecules would prevent the forming of other compounds having the same periods of vibratory motion; in fact, they must be of an opposing kind in order not to be influenced by the bacteria-cells. Now, it is again evident that when a ptomaïne, possessing a molecular vibration which antagonizes that of the bacteria accumulates in a sufficient amount, the antagonism which it offers will be sufficient to arrest the motions of the bacteria-cells, and thus put a stop to the cell metabolism which they caused —in other words, to arrest the disease.

Perhaps this power, which waves or vibrations have of increasing or destroying similar waves or vibrations, may be better understood by reference to instances where waves of sounds and waves of light thus influence each other. Take, for example, two tuning-forks which have equal periods; when sounded each will give out the same continuous musical sound. Let us, however, change the vibrations in one of the instruments, by attaching some substance to it, or in any other way. The two instruments will no longer vibrate together, the vibrations will not coincide in time, hence the sound that will be given off by them will no longer be a continuous musical note gradually fading away, but will be a rising and falling sound. When the two instruments vibrate together, the sound will be distinct. As one vibrates more rapidly than the other, they will gradually part company, and the sounds which they give out will coincide less and less in point of time as one gains upon the other, and become fainter and fainter, and disappear when the wave crest of one coincides to the wave trough of the other. After passing the line, the sound becomes gradually more and more distinct until it again reaches its acme, when crest and trough coincide to crest and trough of the other side, and thus the sound will rise and fall, depending upon the amount of wave interference or antagonism, until the vibrations are exhausted.

It is thus seen that sound-waves can be caused to so act upon each other that, instead of producing sound, they will cause silence. Illustrations could be given, if it were necessary, to prove that when waves of light are met by other waves of light whose periods of vibrations are one-half wave length behind the first, darkness will be the result. The waves of the one set are quenched or antagonized by those of the other, in accordance with the law of wave-interference. This beautiful and important law was discovered by Dr. Thomas Young, one of the most remarkable men the world has produced. Speaking of this law, Sir John Herschel says: "This principle, regarded as a physical law, has hardly its equal for beauty, simplicity, and extent of application in the whole circle of science." The principles involved in this law of interference furnish an explanation why ptomaïnes are inhibitory, and sometimes poisonous, to the bacteria-cells which originated them. The amount of antagonism exerted by the ptomaïnes, in accordance with this theory, would depend entirely upon the extent of interference which its molecular waves would cause in the molecular waves of bacterium cells. As the amount of interference in waves of sound and waves of light varies, and thus produces variable amounts of sound from zero up, there are ptomaïnes whose inhibitory power over the actions of cells differs in the same degree and from similar causes.

Summary.—The explanation of the phenomena of contagion which our theory offers is based upon the application of the laws of wave-motion to the motions of complex organic molecules; thus, when waves of sound, of light, or of water meet other similar waves, the amplitudes of the resulting waves are increased; when, however, the waves are dissimilar, the amplitudes of the resulting waves are diminished. As a means of illustration we will apply these laws to waves of water. Now, a wave of water has certain dimensions, *e.g.*, it has a front, a back,

a crest, a trough, and has amplitude. The crest is the top, and the trough is the bottom of the wave, amplitude is the distance from the top of one to the top of the next (nearest) wave.

Now, when two bodies of water, approaching each other from opposite directions, meet, if the waves of each body coincide in the time of their upward and downward movements, the resulting waves will have their amplitudes enlarged, *i.e.*, the distance from crest to crest will be increased; if, however, the approaching waves do not coincide in time, should the crest of one set coincide with the trough of the other set, the amplitudes of the resulting waves will be diminished; or the downward force of one set of waves meeting the upward force of the other set, the result may be a complete antagonism of forces and the waves may be destroyed.

Assuming that the movements of complex organic molecules are also governed by these laws, it follows that, when molecular waves of one combination meet molecular waves of another combination, the waves of the first coinciding with those of the second, the amplitude will be increased in the waves of that substance which is the least firmly fixed in its structure; this increased amplitude means an increased distance between such waves, and when the distance is sufficiently great to remove the molecules beyond the limit of their attractions the combination becomes disrupted and the molecules liberated. It is well known that these liberated molecules cannot long remain in this free condition, they will be forced, by their mutual attractions, to recombine into combinations of simpler, and, for this reason, more fixed substances. It follows, as a result of these disrupting forces, that this new combination must have periods of molecular vibration that do not coincide with those of the disrupting cause. Hence the molecules of this new compound will interfere with the movements of the molecules of the other substance, and, when the interference is sufficient, will destroy them, just as interfering water-waves destroy other waves of water. In harmony with these facts we can understand how the molecular movements of a bacterium cell disrupt the molecular combination of albuminoids, and why the ptomaïnes, which result from the rearrangement of the liberated molecules, have the power of arresting or destroying through their interference the destructive forces of the cell.

Immunity: how Secured.—Immunity signifies a condition of body which opposes the development of infectious processes, or, more accurately stated, it is a condition of the body which opposes the invasion of bacteria. We will not stop to discuss the many theories—beautiful, ingenious, but incompetent—which have been suggested in explanation of how immunity is secured, but will proceed to show that an application of the laws of wave-motions to organic molecules, together with an application of the laws of descent to the evolution of cells, will furnish a complete explanation of all the known phenomena of immunity.

The physical and biological premises upon which this theory of immunity is built postulates the necessary existence of a natural law of immunity from bacterial influences, through the operation of which all organisms, both animal and vegetable, are to a large extent rendered immune from the action of bacteria-cells; the exceptions to the universal prevalence of this law constitute individual or racial susceptibility to infectious processes. Hence it becomes necessary to explain the causes of this natural law of immunity, and later, to indicate and explain the causes of its exceptions. That man and animal are, as a rule, exempt from bacterial invasions is evident; were it not for this law man would be destroyed by the hordes of microbes which surround him and which would attack him from all sides, which enter his body with the air he breathes, with the food he eats, and with the water he drinks. In the face of such a vast army of foes he would be absolutely helpless, if it were not for this natural law of immunity. It will perhaps be answered that the reason man escapes injury from this horde of bacteria is to be found in the fact that they are innocuous. This answer is only partially true, for while they may be innocuous to man, they are frequently virulent to other animals; besides, this answer does not carry with it an explanation of why they are innocuous to man. The answer to this inquiry will necessarily include an explanation of the natural law of immunity. An investigation into the working of this law discloses the fact that differences exist among different races of people, and, to a less extent, individuals of the same race, regarding the kind of immunity which this law secures to them; *e.g.*, it is established that certain races are largely immune from yellow fever, and other races from syphilis, while individuals of these several races possess different degrees of susceptibility to these influences. Admitting that this racial, and, to a less extent, individual, immunity may in part result from long exposure to the infecting causes, the principal cause, it must be conceded, rests upon structural differences between the races. In a series of articles published in *The Lancet* in 1888, upon the pathology of infectious and infective diseases, Dr. Joseph Coates, the eminent pathologist, in discussing the causes of natural immunity, uses the following language in the summing up of his conclusions: "We have seen that, in the case of a large number of diseases of this class, inheritance, whether we take it more broadly in the race, or more particularly in the family, has an undoubted, and frequently a very great, influence on the susceptibilily to infection. This varying degree of susceptibility exists in the cases of diseases which are demonstrably due to a micro-organism which is pathogenic in the individuals of one race to a high degree, and is non-pathogenic, or nearly so, in individuals of another race. Recurring to our remarks on the general principles of inheritance, it seems necessary to refer this difference in susceptibility to fine differences in the structure and activity of the tissues. We have seen that the differences in the races depend on variation in the details of their tissues." There are two theories of immunity before the world for a verdict, to which we must devote some attention. The theory of phagocytosis ascribes to certain cell-elements, *e.g.*, the white blood-cells, connective-tissue cells, endothelial cells, and cells of spleen, bone, marrow, and lymph-glands, which are generically called phagocytes, the property of attacking and devouring bacteria. It is said they cannot devour the pathogenic forms until they have been put through a system of training with the attenuated ones. Metchnikoff is the founder and leading advocate for this theory; other eminent bacteriologists, however, have verified the work done by Metchnikoff, and are equally zealous with himself in asserting the truth of the theory. The second theory ascribes to the normal tissue-fluids of the body a germicidal action. This theory is based upon carefully conducted experiments by Nutal, Buchner, Labarsch, and Prudden with blood serum and other tissue-fluids, associated with and also separated from their cellular elements; and, it is claimed, proves that these fluids, and not the cells they contain, are highly germicidal to many, but not to all, bacteria. While one theory seems to oppose the other, in so far as one ascribes the germicidal action to the cell-elements and the other to tissue-fluids and blood serum, although deprived of cells, this opposition in fact does not exist; for it is more than probable that both cells and fluids of the body are germicidal; at the same time the germicidal powers may greatly differ in important respects. While the fluids may be competent to destroy some varieties of bacteria, they may be incompetent to injure the other varieties, or the cells may be competent to resist bacteria that are inimical to the fluids. The following quotations from Dr. Prudden's article "On the Germicidal Action of Blood Serum and Other Body Fluids," may be heard with interest:

"To account for the disappearance of pathogenic bacteria in the body, either in the course of an acute infectious disease, or as the result of exposures which we may sustain unharmed, several more or less plausible theories have been evolved.

"That one of these which has attracted most attention, partly because it has been most ably advocated, and partly because it lends itself most readily to experimental observation, is that called the theory of phagocytosis. This theory is too well known to require detailed exposition here; suffice it to say that it postulates the taking up into their bodies and the destruction there of living micro-organisms by certain lowly organized cells, especially the leucocytes. A large amount of very plausible experimental evidence has been adduced in favor of this theory, and a good deal of this evidence has been unconditionally accepted by medical men. Metchnikoff, the chief expounder of this theory, claims that this destruction of the life of the bacteria by being taken into the bodies of certain cells, phagocytes, is the exclusive means which the organism makes use of in resisting the incursions of pathogenic bacteria. An animal whose leucocytes can successfully battle with and eat up a given species of bacteria, according to this theory, enjoys immunity from its deleterious effects.

"But the doctrine of phagocytosis, at least in the scope which is claimed for it, appears to most unprejudiced observers less and less to commend itself the more facts and observations on which it is based are critically examined and judiciously interpreted.

"The series of observations on which this theory largely rests, varied and elaborated in many ways, indisputably teach this, that when micro-organisms are introduced into the body, either naturally or artificially, the phagocytes which gather round them may be found after a time to have taken more or less of the germs into their bodies, where they show the morphological evidences of degeneration, which indicate that they are dead. That this phenomenon does occur is well enough established, but that it should be interpreted as necessarily meaning that the micro-organisms are taken in the living condition into the bodies of the cells, and are there deprived of life, appears to be very doubtful indeed." This quotation is sufficient to indicate that phagocytosis, like the Scotch verdict, is not proven.

Let us now learn what Dr. Prudden has to say, in the same article, regarding the germicidal properties of blood serum and other tissue-fluids. We will quote from his summary, and the concluding remarks of the article referred to.

"It will thus appear, as to the general result of all this recent work, that, first, blood serum possesses, though in different degrees in different animals, and in varying potency with the different bacterial species, a most marked germicidal power; that a similar germicidal power resides in fresh human non-inflammatory transudations. That this power is not directly associated with the formed elements of the blood or the transudates, but is in some way dependent upon their albuminoid constituents. It would further appear that this singular, and, apparently, most significant capacity of the body fluids, is intimately associated with the complex condition which we call life."

"The significance of these new discoveries would seem to be very great and far-reaching, and not only in explaining many obscure phenomena of the acute infectious diseases and in their bearing upon the doctrine of immunity, but also in calling back the attention of therapeutical adventurers from germicidal warfare with certain forms of infectious diseases, to what appears to be a natural defence of the organism against bacterial invaders, namely, a healthy condition of the blood." . . .

"But our knowledge of this subject is too fragmentary and too little digested to permit us to do more at present than follow the general indications of its lead. . . .

"The fact that one of the most abundant of the pathogenic bacteria, the staphylococcus pyogenes aureus, appears to be quite invulnerable to this destructive agency, would indicate the necessity of cautious inferences. . .

"It is a little humiliating, though doubtless salutary, to find ourselves face to face with a series of phenomena which seem to lie at the very basis of the knowledge of acute infectious diseases, and yet able to say only that they are the result of the vital forces."

These quotations from Prudden's paper furnish us the salient features of the two theories of immunity, some of the objections which are urged against them, and evidence of their incompetency to explain all, or even a large part, of the phenomena of immunity; they also give us an idea of the character and extent of known phenomena of natural immunity, which must be rationally explained by any theory before its truth can be accepted.

The chief difficulties, as I conceive them, which stand in the way of a correct knowledge of the laws of natural immunity are found in the obscure vitalistic conceptions entertained regarding the structure and activities of tissue, and the laws of inheritance in their application to the evolution of cell-development. We will endeavor to show that structure is an arrangement of molecules in cells, and that differences of structure consist in differences of molecular combinations with their associated movements in definite periods of time; and that these varying forms of molecular aggregation, whether found in cells, in protoplasm, or in albuminoids, have resulted from the operation of the laws of natural selection, heredity, and adaptation. These views will no doubt appear to many persons quite startling, as do all declarations which seriously disturb the usual order or prevailing opinions of men. It can hardly be claimed, however, that they are untenable; on the contrary, they are based upon accepted physical laws, and explain many phenomena which cannot otherwise be explained, whether these are observed from the stand-point of the physiologist, the biologist, the physicist, or the chemist. The warrant for making this statement is found in the writings of Michael Foster, Professor Huxley, Professor J. Clerk Maxwell, and Julius Thomson; it is needless to say that the opinions of such men, in matters relating to their special departments of science, are entitled to the greatest respect. Professor Michael Foster, M.D., says: "We have, in speaking of protoplasm, used the words 'construction, composition, decomposition,' and the like, as if protoplasm were a chemical substance. And it is a chemical substance in the sense that it arises out of the union or coincidence of certain factors which can be resolved into what the chemists call 'elements,' and can be at any time, by applying appropriate means, broken up into the same factors, and indeed into chemical elements.

"This is not the place to enter into a discussion of the nature of the so-called chemical substances, or, what is the same thing, a discussion concerning the nature of matter; but we may venture to assert that the more these molecular problems of physiology, with which we are now dealing, are studied, the stronger becomes the conviction that the consideration of what we call 'structure' and 'composition' must, in harmony with the modern teachings of physics, be approached under the dominant conception of modes of motion.

"The physicists have been led to consider the qualities of things as expressions of internal movements; even more imperative does it seem to us that the biologist should regard the qualities (including structure and composition) of protoplasm as in like manner the expression of internal movements.

"He may speak of protoplasm as a complex substance, but he must strive to realize that what he means by that is a complex whirl, an intricate dance, of which what he calls chemical composition, histological structure, and gross configuration, are, so to speak, the figures; to him the renewal of the protoplasm is but a continuance of the dance, its functions and actions the transferences of figures." . . . "And the conception which we are urging now is one which carries an analogous idea into the study of all of the molecular phenomena of the body."

"We must not pursue the subject any further here, but we felt it necessary to introduce the caution concerning the word 'substance,' and we may repeat the assertion that it seems to us necessary, for a satisfactory study of the

problems on which we have been dwelling for the last few pages, to keep clearly before the mind the conception that the phenomena in question are the result, not of properties of kinds of matter, in the vulgar sense of these words, but of kinds of motion." [1]

Professor Huxley says: "The broad distinctions which, as a matter of fact, exist between every known form of living substance and every other component of the material world, justify the separation of the biological sciences from all others. But it must not be supposed that the differences between living and not living matter are such as to justify the assumption that the forces at work in the one are different from those to be met with in the other. Considered apart from the phenomena of consciousness, the phenomena of life are all dependent upon the working of the same physical and chemical forces as those which are active in the rest of the world."

"It may be convenient to use the terms 'vitality' and 'vital force' to denote causes of certain great groups of natural operations, as we employ the names 'electricity' and 'electrical force' to denote others; but it ceases to be proper to do so, if such a name implies the absurd assumption that 'electricity' and 'vitality' are entities playing the part of efficient causes of electrical or vital phenomena."

"A mass of living protoplasm is simply a molecular machine of great complexity, the total results of the working of which, or its vital phenomena, depend on the one hand upon its construction, and on the other, upon the energy supplied to it; and to speak of 'vitality' as anything but the name of a series of operations is as if one should talk of the horology of a clock." [2]

Professor J. Clerk Maxwell says: "Thus molecular science sets us face to face with physiological theories. It forbids the physiologist from imagining that structural details of infinitely small dimensions can furnish an explanation of the infinite variety which exists in the properties and functions of the most minute organisms."

"A microscopic germ is, we know, capable of development into a highly organized animal. Another germ, equally microscopic, becomes, when developed, an animal of a totally different kind. Do all the differences, infinite in number, which distinguish the one animal from the other, arise from some difference in the structure of the germs? Even if we admit this as possible, we shall be called upon by the advocates of pangenesis to admit still greater marvels. For the microscopic germ, according to this theory, is no mere individual, but a representative body, containing members collected from every rank of the long-drawn ramification of the ancestral tree, the number of these members being amply sufficient to furnish not only the hereditary characteristics of every organ of the body and every habit of the animal from birth to death, but also to furnish a stock of latent gemmules to be passed on in an inactive state from germ to germ, till at last the ancestral peculiarity which it represents is revived in some remote descendant." [3]

Julius Thomson, in his introduction to "Thermochemical Investigations," says: "Theoretical chemistry is based upon the molecular theory, according to which all matter is made up of molecules, and these molecules of atoms. The physical state of bodies depends upon the arrangement and motions of the molecules, the other physical and chemical properties depend upon the kind and number of atoms in the molecule, upon their arrangement and relative motions." [4]

In a former part of this article we endeavored to explain that certain cells would be virulent to other cells when the first were able to disrupt the molecular combinations of the second, and that this power of disruption was exercised by the more stable molecular combinations, whose periods of molecular vibrations coincided with the less stabile in periods of recurrence. Under these conditions the cells of virulent bacteria, with their contained molecules vibrating in definite periods of time, would shake apart the molecules of other cells or molecular combinations, *e.g.*, the albuminoid molecules of the cell-elements or fluids of the blood or tissues of man, provided these vibrated in periods of time coinciding with those of the bacteria cells; for the reason that the first are more fixed in their molecular combinations than the second, and consequently are better able to withstand the increased kinetic energy manifested by an increase of wave amplitude, which molecular waves, rapidly superposed on other molecular waves of the same periods of recurrence, would necessarily induce.

Bacteria cells whose wave-lengths do not coincide in periods of recurrence with those of any cells, blood serum, or tissue fluids of man, would for this reason be innocuous to man. At the same time they might find, in fluids or tissues of other animals, molecular combinations which these bacteria could disrupt, and for this reason they would be virulent to such animals.

I presume that no one will deny that cell structure, or that of the normal tissue fluids of man's body, varies in many respects, and that these variations correspond to the ultimate use of such fluids in supplying the different cells of the body with the means of repair and regeneration. Admitting this proposition, it follows that different cells and different fluids of man's body, notwithstanding their macroscopic or even microscopic similarity of appearances, possess molecular combinations differing among themselves, and peculiar to each class or variety, and consequently cannot be affected alike, or at all, by the same bacteria; some bacteria would find vulnerable structures in the blood and other fluids of the body, others in the fixed cells, and others perhaps in the contents of the alimentary canals. Some would be virulent to man and innocuous to animals, others would be virulent to some animals and innocuous to others, and would thus present many differences of action—which in fact are found to exist in nature.

Cell structure is thus resolved into molecular combinations, while cell immunity is the result of molecular vibrations. Hence it follows that the law of natural immunity depends not alone upon inherited qualities acquired by man as a complex cellular organism, but also upon qualities which each individual cell or molecular combination has acquired for itself through the operation of the laws of inheritance and adaptation.

We have already endeavored to outline the results that would be obtained by the application of the laws of natural selection, heredity, and adaptation to the evolution of cell life.

In an infinite number of created cells there would exist infinite differences in their molecular combinations, which would determine species and varieties, and would also determine the lines of development which the different species and varieties would pursue, as well as the extent of development which the species and varieties could attain. Thus, in consequence of this molecular structure, some cells would find their fixed point of development in unicellular organisms, while others would enter into and assist in the formation of complex multicellular organisms. All cells from the beginning, in consequence of the differences in their molecular combinations causing equal differences in their molecular vibrations, would wage incessant war upon each other because of the actions, interactions, and reactions of their molecular vibrations, until there would eventually result an adjustment of their forces, through the operation of the laws of natural selection, heredity, and adaptation, resulting, to a great extent, in their individual and special immunity. By natural selection we mean that law of nature whereby she selects from a large number of organisms those varieties and species which are in best harmony with their environment. By heredity we understand that natural law which transmits through the race those qualities, possessed by varieties or species, which determine their selection by

[1] Encyclopædia Britannica, 9th ed., Article Physiology.
[2] Ibid., article Biology. [3] Ibid., article Atom.
[4] W. R. Nichols: Popular Science Monthly, October, 1883.

nature. By adaptation we understand that law which enables organisms, during their generation, to adjust themselves to their surroundings; qualities thus acquired may be, to a limited extent in long periods of time, transmitted through inheritance. Environment constitutes those natural causes, *e.g.*, climate, food-supply, temperature, moisture, etc., which determine the species or varieties which nature will select for the purpose of propagating the kind.

No correct opinion of cell life or the life of cellular organisms can be had. There can be no correct conception of the causes of cell immunity, whether it be a bacterium cell or one found in man's body, or, for that matter, found in the cells composing his entire body, that is not based upon the evolution of cell life, through the laws of descent from the simple to the complex, and from the undifferentiated to the differentiated cell structure. It is in this manner and in conformity with these laws, that man has acquired his natural immunity from bacterial invasions. The molecular vibrations natural to the various cells and fluids of his body render him immune to a great extent from what might be otherwise fatal influences. Now, these molecular cell combinations and their equivalent molecular vibrations are qualities of inheritance, and represent certain adjustments of molecular force gradually acquired by the ancient ancestors of these cells through wars and battles of cells, the like of which has never occurred in the history of man.

Having thus explained the causes which produced the laws of natural immunity, it would be proper to inquire into the reasons why this law is not absolute in its operations; why man is not immune from all infective and infectious diseases. To enter into this discussion and explain how the laws of natural selection, heredity, and adaptation are equally as competent to explain these exceptions to the law as they are to explain the law itself, would make this already lengthy paper too long to be read on this occasion. I have concluded to pass this portion of our subject, and devote the remainder of this paper to an explanation of the principles involved in artificially acquired immunity. It is well known that immunity from many acute infectious diseases can be secured by artificial means, *e.g.*, one attack often renders the individual immune from future attacks of the same malady. Another artificial means of securing immunity is to be found in what is termed "protective inoculations;" this method consists in the inoculation of an "attenuated" or weakened form of the virulent microbe which is the etiological factor in producing the disease. Thus anthrax, chicken cholera, small-pox, swine plague, and other forms of infectious disease are non-infectious to individuals who have been previously inoculated with the attenuated microbes of that disease from which they seek immunity. "Attenuation" of bacteria is produced differently with different varieties of pathogenic bacteria, and when once accomplished is more or less fixed as a condition of such bacteria. To all appearances they are the same, but are no longer able to decompose molecular substances, provided the attenuation is perfect; there are, however, degrees of this condition, so that the decomposing power of the bacterium will depend upon the extent of its attenuation, *i.e.*, at what point or stage the process of attenuation is arrested; thus the power of the cell to do its specific work is proportional to the extent of its attenuation. While the attenuated bacterium is usually fixed in this condition, at least to a very considerable extent, and will transmit this quality to its offspring through many generations, it can, by a reversal of the methods of attenuation, be brought back to its original condition of virulency. You will, perhaps, be reminded of the similarity of behavior in this respect between the bacterium and the yeast-cells. Oscar Brefeld, you will remember, succeeded, by a peculiar artifice, in modifying these cells in such a way that they would grow and multiply themselves in a solution of malt without producing alcohol.

The third and last means by which immunity against an infectious disease can be secured, is by previously injecting its characteristic ptomaïnes into the individual, beginning with small amounts and gradually increasing the dose as the individual becomes accustomed to the poison. This means of immunity, by the injection of specific ptomaïnes, is of recent discovery, and bids fair to become of great practical advantage. It already explains what had been previously very obscure, how the pregnant mother gives immunity, for example, in syphilis, to the child in utero.

It is generally admitted that solid particles, like bacteria-cells, cannot pass from the mother through the placenta to her child in a normal state of the placental tissues; hence, the fact of the child's immunity secured through the mother was not understood. That soluble substances like ptomaïnes can pass in this way by osmosis is not questioned, and in doing so explains how the child receives from the mother immunity from syphilis and other infectious diseases.

These different means of securing immunity from certain infectious diseases, *e.g.*, immunity secured by a previous attack, immunity secured by protective inoculations with the attenuated bacterium, or with the specific ptomaïne, appear to be of a very dissimilar character, and cannot be harmonized by any of the theories at present offered in explanation of these processes. It will be observed, however, that when the principles involved in our molecular cell theory are applied to the elucidation of this problem, a striking similarity of action between these methods is seen to exist, and order is established out of chaos.

I will first invite your attention to the methods of securing immunity by inoculating attenuated bacteria and by inoculating the specific ptomaïnes, and show that practically the two methods are the same. We have previously explained how the pathogenic bacterium cell, through its molecular vibration, has the power of disrupting the albuminoid molecules which it finds in the blood or tissue fluids of man's body, provided that the molecules of this substance vibrate in the same periods of time, crest to crest and trough to trough, in which recur the molecular vibrations of the bacterium cell. This is an important principle which I hope you will fix in your minds. When two or more molecular combinations—for illustration, two cells whose molecules vibrate in the same period of recurrence—meet in the blood, or any other nutritive solution where the molecular activities have full play, that cell which is most fixed in its molecular combinations will shake apart the molecules of the other cells, drive them beyond their attractions, and thus disrupt the cell. When this conflict is between the molecules of bacteria-cells and combinations of albuminoid substances, and the battle-ground is the tissue fluids of man's body, the albuminoid molecules will be driven beyond their attractions and the combinations disrupted, for the reason, first, that they vibrated in unison with those of the bacterium-cell, and second, that they are less fixed in their combination than those of the bacterium cell. Now, when this pathogenic bacterium cell is attenuated, weakened in its power of disrupting the albuminoid molecules, it will produce only small quantities of ptomaïne; the amount of ptomaïne produced will depend upon the amount of attenuation the cell has received. So that, using these attenuated bacteria as the matter of inoculation amounts to the same thing as using small quantities of ptomaïne as the matter for such inoculations; the results obtained and principles involved are the same in either case.

How does one attack of an acute infectious disease give man immunity from other attacks of the same malady? is the question that now offers itself for our solution.

A bacterium cell disrupts molecular combinations of the albuminoids when the molecules of each vibrate in the same periods of recurrence; the albuminoid molecules which are thus disrupted or shaken apart, and liberated from their former combinations, will again immediately recombine, because of their attractive affinities, to form

other combinations which are called ptomaïnes. Explanation has been made why these ptomaïnes must of necessity have molecular vibrations which recur in periods of time that interfere with those of the bacterium cell, and when the ptomaïne accumulates in sufficient amount will, through the action of the law of interference, which applies to all wave-motion, so antagonize the bacterium-cell that its action will be destroyed, and it will no longer be able to disrupt the albuminoid combination. It is in this way, you will remember, that the yeast-cells are affected by alcohol, their ptomaïne, and it is this law of interference which explains why waves of light, or waves of sound, if they recur in different periods of time, may in the one case produce darkness, and in the other produce silence. You will observe that the reason the molecular vibrations of the ptomaïne thus interfere with those of the bacterium-cell, is due to differences which exist in the vibratory recurrence of the two substances, and that molecular vibrations, like the vibrations of light and sound, are subject to that beautiful and far-reaching law of interference.

Now, as the molecular vibrations of the bacterium cell coincide in all respects with those of the albuminoid combinations which it is capable of disrupting, it follows that the respective ptomaïnes will affect or interfere with the two substances alike, *i.e.*, the molecular vibrations of two substances being the same, any third substance whose molecular vibrations would interfere with those of one substance, would also interfere with those of the other.

Hence the ptomaïne which interferes with the bacteria cells will, for the same reason, interfere with certain albuminoid molecules. You will understand that this interference, exerted by the ptomaïne over the albuminoids, will change the molecular vibrations of this substance, that is, will change its molecular combinations, and as long as this interference, or this changed molecular combination, continues, such molecules could no longer be influenced by the bacterium cell, and the individual would be immune from that acute infection to which such bacteria stand in the relation of etiological factors.

Ptomaïnes are chemical substances, and like other chemical substances, do not find in man's body a permanent abiding-place, but are disposed of or eliminated from the body in a reasonably short time. How, then, are we to explain the more or less permanent immunity which observations and experience teach us is secured by the various artificial means which have been referred to?

The phenomena of interference, manifested in waves of light or waves of sound, continue only during the time that the interfering cause is in operation. You will observe that this rule does not apply to the interference between the ptomaïnes and albuminoids. How, then, are we to explain the fact that the phenomena of interference, manifested as change of molecular movements in the albuminoids of the blood, continue to persist more or less permanently after the cause of interference, the ptomaïne, has been removed or is no longer a cause of molecular interference. To fully understand this problem it is necessary to consider the nature of the two substances involved, the ptomaïnes and the albuminoids. The ptomaïne, a product of the disintegration of the albuminoid, is a less complex and more fixed substance than the albuminoid from which it is derived. The ptomaïne which will be produced in any given case is determined by the molecular structure of the active causes, the bacteria-cells, and the molecular structure of the substance acted upon, the albuminoids; as there are many varieties of the pathogenic bacteria and many differences in the molecular combinations of the albuminoids, there must result many different kinds of ptomaïnes. The albuminoids are of course derived from the food we eat, animal or vegetable. The molecular combinations which these substances had before entering our bodies, became greatly changed by heat in the process of cooking them, and further changed by the process of digestion to which they are subjected. As we find them in the blood or tissue fluids of man, they are plastic molecular compounds, well suited to furnish to the many different kinds of cells of which man's body is composed matter for their repair or regeneration. It follows that substances pressing such mobile molecular combinations of various kinds would be easily influenced by interfering bodies, and that the new molecular arrangements involved in this process of interference would be more or less permanent, and capable of being transmitted by the act of generation. That this is not an improbable assumption, but, on the contrary, a correct principle, is evidenced by the fact that changes of like nature in the molecular arrangements of cell structure, a much more fixed substance than the albuminoids, do occur from artificial causes, and that such new molecular arrangements become permanent and are transmitted through the act of generation. I refer to those changes produced in the pathogenic bacterium by the process of attenuation.

Immunity will then be more or less permanent, depending upon the degree of permanency in the molecular combinations of the albuminoids which the ptomaïne has imposed upon them. As a matter of fact infectious diseases differ very greatly, regarding the duration of immunity, if any, which one attack secures to the individual against other attacks. The phenomena, you will observe, in this instance as well as in all others, are in harmony with and capable of being rationally explained by our theory. So far as I know, there is no attempt to harmonize an explanation of these phenomena with the theory of "enzymes" or, for that matter, with any other theory. The atomic theory is accepted, and, in fact, is the foundation upon which is built the beautiful and stately structure, Chemical Science, although no man has ever seen an atom, and for that matter, will never see one; yet it is accepted because it is capable of explaining chemical laws and the phenomena of chemical changes. It can also be said of the undulatory or wave theory of light, the waves are invisible and likely to remain so, but the theory is accepted because of its competency to explain the phenomena and laws of light. And, if you will excuse the apparent egoism involved in making these comparisons, it is because the molecular cell theory is competent to explain the phenomena and laws of infection and infectious diseases, that I am convinced of its truth.

It will, however, do more than this. I am convinced that a right application of the laws involved in this theory is competent to explain many other dark problems of medicine—for example, that obscure subject involved in the power and potency of drugs and their therapeutical uses; and I predict that it will be along these lines of investigation that knowledge is to be obtained and progress made.

Austin, Texas, March 7, 1890.

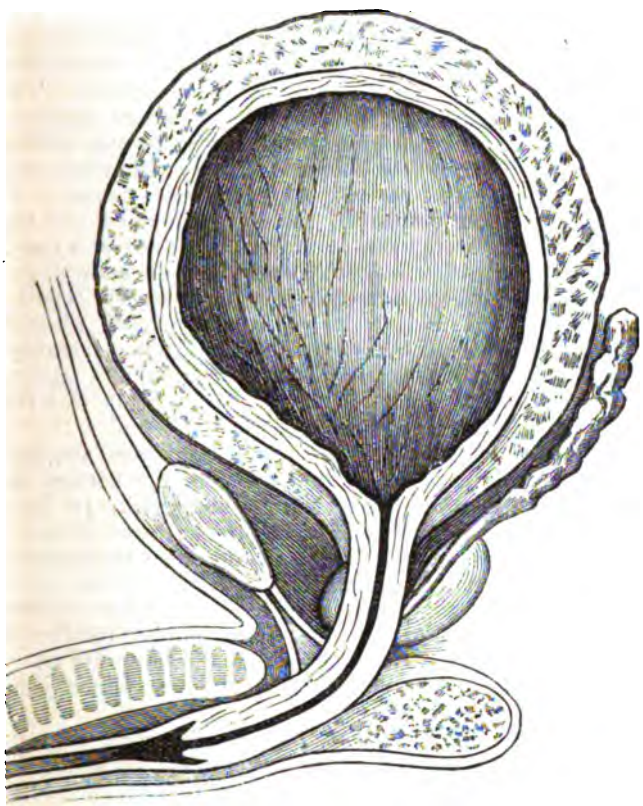
CONGENITAL MALFORMATION OF THE MALE URETHRA.[1]

By ALEXANDER W. STEIN, M.D.,
NEW YORK.

Of the various congenital malformations of the male urethra that have been met with and recorded, this one is, as far as my reading goes, unique. It consists of an abrupt diminution of the canal, about an inch anterior to the membranous portion. The urethra is of normal calibre (33 F.) in front of the diaphragmatic obstruction. But here the mucous membrane is folded upon itself toward the lumen of the canal, and the urethra is reduced to about 15 mm. in circumference, and remains uniformly diminished to the vesical orifice, a distance of about three inches. It is given not alone for its teratological interest, but because of valuable suggestions which it presents to the practical surgeon. It is not necessary to dwell upon them, as they are too apparent, but I will

[1] Read before the American Genito-Urinary Association, June, 1890.

mention one of the difficulties which was experienced in this case. Because of the frequent micturition and the account he gave of himself of having had gonorrhœa, etc., a stricture was suspected. His urethra was thereupon explored, first the urethrotome, then the bougie à boule, and subsequently smaller instruments were passed. All met with a decided obstruction at about five inches from the meatus, giving the impression that a very narrow stricture existed. In consequence of the great difficulty of introducing instruments, after repeated trials, internal operations were abandoned, and external perineal urethrotomy without a guide was contemplated, as the only means of affording relief. But, had this operation been undertaken, the difficulties in the way of its performance can well be imagined. He was suffering from phthisis pulmonalis and was very feeble, and operative interference was deferred until he should become stronger. Treatment was directed to this end, but without avail. He died from asthenia in a few days. In the curator's book the following brief statement appears over the signature of one of the curators of the hospital: "F. H——,



aged twenty-five; lungs, both upper lobes filled with caseous, tubercular material; kidneys, four ounces, capsule adherent; bladder hypertrophied; slight vascular engorgement of base; urethra exhibited a fold about three inches (?) from the meatus. The specimen was given to Dr. S——, for further study."

With the view of making the specimen more intelligible it was thought best to make a schematic drawing of it, rather than present it as it now exists, with the urethra laid open upon the dorsum of the penis as far as the narrowing. But it is essentially true to nature as represented.

Inasmuch as the narrowing of the urethra had its origin at the vesical orifice, the canal is not dilated in any part of its course. There is a certain anatomico-physiological interdependence between the urethra and the bladder, or in other words, when the calibre of the urethra is diminished, either from an acquired or a congenital defect, an extra demand is made upon the functional activity of the bladder, and in consequence thereof its cavity becomes more and more diminished with the increasing obstruction or with the lapse of time. This is apparent in the specimen of the bladder before us, which, in the absence of further history, speaks for itself. It shows the additional strain with which it was encumbered for years, in the concentric hypertrophy of its walls, until its cavity was diminished to a capacity of not more than about two ounces. It might be said that in stricture, the deeper the coarctation—that is, the nearer it is to the bladder, the greater the probability, all other factors being equal, of distention and dilatation of the viscus. In stricture of the penile urethra, the canal suffers dilatation posterior to the contraction, in consequence of repeated hydrostatic pressure; but, while the integrity of the urethra is thus impaired, the stricture permits the urine to escape without diminishing the expulsive power of the bladder, unless retention succeeds. In vesical obstruction there is always a marked tendency toward the reverse of what we observe in strictures, high tension, atony and sacculation, or else to the non-inflammatory there is superadded an inflammatory thickening, with infiltration and organization of the submucous coat, rendering the bladder inflexible and indurated, unable to obliterate its cavity. These sequelæ are characteristic of prolonged vesical obstruction. In this case of urethral insufficiency, the embarrassment from which the man suffered for twenty-five years did not leave behind it any pathological manifestation.

ON GONORRHOIC IRIDO-CHOROIDITIS.[1]

By CHARLES J. KIPP, M.D.,

NEWARK, N. J.

It is not my intention, on this occasion, to review all that has been written on this subject, but simply to state what I have learned of this disease from personal observation. Judging from the number of cases I have had under my care, gonorrhœa is not a frequent cause of inflammation of the uveal tract. In only one-sixth of the cases of iritis from all causes seen by me in private practice, was gonorrhœa or gonorrhœal rheumatism present at the onset of the iritis, and in several of the cases in which the joint affection preceded the iritis it was even doubtful whether this was the result of gonorrhœa, as one or several slight attacks of rheumatism had occurred previous to gonorrhœa. According to some writers,[2] iritis never follows an inflammation of the urethra without some joint having been attacked previously, but this is not my experience, and Mackenzie,[3] Ricord, and others have also seen iritis follow gonorrhœa in patients free from rheumatism. I have seen four cases in which a violent inflammation of the uveal tract developed while the patient still had a specific urethral discharge, but no disease of any joint, and who had never had rheumatism. Whether or not the gonorrhœa was responsible for the eye disease in these cases I cannot say, but it seems to me that if, as is commonly assumed, the joint affection is the result of a diffusion of the gonorrhœal poison (probably gonococci) through the system by means of the circulation—a kind of metastasis of the virus—this can also cause an inflammation of the uveal tract. Gonococci have been found, according to Michel,[4] in the joints in cases of gonorrhœal rheumatism, but, so far as I know, no one has thus far found them in the interior of the eye in gonorrhoic irido-choroiditis. In the four cases seen by me no other disease than gonorrhœa was present at the onset of the eye disease, none had had syphilis, but in one an attack of rheumatism or gout had occurred four years before the gonorrhœa was contracted. In all of these cases the inflammation of the uveal tract set in three or four weeks after the beginning of the urethral discharge. As to the character of the irido-choroiditis observed in these cases, I may say that it did not differ from that seen in the cases in which joint disease preceded the eye disease, which

[1] Read by invitation before the Section of Ophthalmology, New York Academy of Medicine, February 17, 1890.

[2] Wecker: Ocular Therapeutics, p. 176. London, 1879.

[3] Mackenzie: Treatise on Diseases of the Eye, American edition, 1855, p. 534.

[4] Lehrbuch der Augenheilkunde, 1884, p. 471.

will be described further on. All these cases occurred in men.[1]

Passing on, now, to the irido-choroiditis following gonorrhœal rheumatism, I may state that my observations are based only on cases occurring in men. I have seen, also, the same eye affection after joint disease closely resembling gonorrhœal rheumatism in women, but as I was unable to ascertain whether the vaginal discharge from which they had suffered was of a specific character or not, I have not counted them among the cases of gonorrhoic iritis. Among the cases occurring in men there were, as I have already stated, a few in which a careful inquiry into their previous history revealed the fact that they had suffered somewhat from rheumatism previous to the appearance of the gonorrhœa. Whether in these cases the gonorrhœa stood really in a causative relation to the joint affection from which they suffered subsequently to the contraction of the gonorrhœa may be doubted, though, as a rule, a discharge from the urethra, with or without a new infection, preceded the attack of rheumatism afterward. The joints mostly affected in my cases were the knees, the hips, the ankles, and the elbows.

In some of my cases the irido-choroiditis occurred shortly after the initial attack of articular inflammation, while in others the eye disease did not develop till the patient had had several attacks of the rheumatism.

The articular inflammation in most cases came on three or four weeks after the appearance of the urethral discharge, but in one of my cases it developed as early as the fifth day, and in a few others not till the discharge from the urethra had entirely ceased.

As to the nature of the joint affection I can say but little from personal observation, as in nearly all the cases that came to me for the eye-trouble the joint disease had subsided for the time. In those that I saw while the joint disease was still active, I found several times the knee-joint enlarged from effusion in its capsule, and painful on motion; once I saw the hip-joint inflamed, and once I found the metatarso-phalangeal joint of the great toe red, shining, and enlarged, just as in an attack of gout.

Proceeding now to describe the eye affection, I may state that in only a very few of my cases was the inflammation limited to the iris and of a mild type. In all the others the disease presented itself under the form of an intense inflammation of the entire uveal tract with an abundant fibrinous exudation in the anterior chamber and an effusion in the vitreous body. In these cases there was found about the fourth day from the beginning of the disease, instead of the ciliary injection seen in simple iritis, marked chemosis and an intense congestion of the vessels of the whole ocular conjunctiva. The aqueous was usually from the beginning of the disease more or less turbid, and about the third or fourth day a yellowish gray exudation, not unlike a layer of wax, was found to cover the pupillary area of the anterior capsule of the lens; in several cases I found at the same time the lower half or the lower two-thirds of the surface of the iris covered by a whitish granular deposit. During the following days there was usually a marked increase in the turbidity of the aqueous, so that the iris was only indistinctly visible, and this was followed soon by the appearance of yellowish white flakes in the aqueous or by the coagulation of the exudation into a gelatinous or spongy mass which sometimes nearly filled the anterior chamber. The iris was in all cases much swollen, and the pupil could not be kept in a state of dilatation by the frequent instillation of strong solutions of atropine and cocaine, even in cases in which these drugs were used from the very commencement of the disease. No ophthalmoscopic examination could of course be made at this stage. The sight was always greatly impaired. Intense pain in and around the eye was a marked feature in these cases from the beginning, and it usually continued till coagulation of the exudation in the anterior chamber had taken place. In some of the cases the coagula looked at first like an opaque lens suspended in the aqueous in front of the pupil; subsequently it was changed by absorption into a grayish disk which was either attached to the surface of the anterior capsule of the lens or rested in the lower part of the anterior chamber. In a number of my cases the absorption of the coagulum progressed steadily till it had entirely disappeared, but in others it was interrupted by an increase in the inflammatory action, manifested by a new exudation of fibrinous matter. This was always accompanied by an increase or a return of the pain in the eye and a diminution of the size of the pupil. In several of my cases such relapses occurred, and two or three weeks elapsed before the fibrinous exudation was entirely absorbed. With the beginning of the absorption of the fibrinous substance in the anterior chamber there was always associated a marked decrease in the congestion of the vessels of the ocular conjunctiva, and by the time the exudation had disappeared only a moderate ciliary injection remained, which usually continued for some weeks more. Posterior synechia remained in most cases; and even in those cases in which the pupil had been kept moderately dilated throughout the course of the disease adhesions between the pupillary margin and the lens capsule could not be entirely prevented. The ophthalmoscopic examination which was always made, as soon as the pupil was free, showed in every case some diffuse opacity of the vitreous body and in many cases there were also present membranous opacities of varying density. In some cases the outline of disk was obliterated and the retinal veins were as a rule found congested and tortuous. Changes in the choroid could not be seen in any of the cases. The period required for the complete clearing up of the vitreous body varied from two to six months, and in a few of the cases some fleeting opacities remained as long as the patient was under observation. In most of the cases the sight was completely restored, while in a few it remained somewhat impaired.

In only a few of the cases were both eyes attacked simultaneously, but in several the second eye became affected before the first had entirely recovered. In other cases the second eye was attacked by the same disease a year or two after the first, while in still others the unaffected eye remained healthy as long as the patient was under observation. Relapses were quite frequent, and in some of my cases one or the other eye would be attacked almost every year. The relapses were, however, always of a milder type than the initial attack and yielded more speedily to treatment.

From the above it will be seen that the great majority of my cases of gonorrhoic irido-choroiditis presented the features not infrequently seen in cases of irido-choroiditis following idiopathic chronic articular rheumatism, and that the gonorrhoic form has no symptoms peculiar to it.

Comparing my experience with that of the writers on this subject, I find that while it is in entire accord with Mackenzie[1] it differs from that of Lawrence and Wordsworth,[2] whose cases were characterized by the absence of exudation in the anterior chamber. In almost all of the more recently published treatises on the diseases of the eye, gonorrhœa is recognized as one of the causes of iritis, but mention of the form of this disease is made only by Wecker[3] and by Jacobson.[4] The former says that it is made up of both the serous and plastic forms and is readily cured by appropriate treatment. The latter, that it presented itself usually in the form of iritis simplex; abundant fibrinous exudation he saw but seldom.

In the treatment of this affection I have at various times employed nearly all the remedies that have been suggested for inflammation of the uveal tract. Instillations of a strong solution of the sulphate of atropine and

[1] For a full report of one of the severest of these cases, see THE MEDICAL RECORD, January 26, 1880.

[1] Op. cit., p. 534.

[2] Royal London Ophthalmic Hospital Reports, vol. ii., p. 301.

[3] Graefe und Saemisch: Handbuch der Augenheilkunde, vol. iv., p. 497.

[4] Beziehungen der Veränderungen und Erkrankungen des Sehorgans zu Allgemeinleiden, p. 89.

of the muriate of cocaine were, of course, made frequently from the day the case came under treatment till all inflammatory symptoms had disappeared. In only a few cases were cold applications to the lids of any benefit, while, on the other hand, warm fomentations seemed to soothe the eye. For the relief of the excessive pain which was present during the first week of the disease I have applied from six to twelve leeches to the temple, and have given internally the salicylate of sodium in twenty-grain doses every two hours till the physiological effects of this drug were produced; after that it was used in smaller doses at longer intervals. Not unfrequently it was necessary to give in addition morphine or antipyrine at night in order to procure sleep. Quinine in large doses was given occasionally to patients who could not take the salicylate of sodium, and in some cases with apparent benefit. In former years I gave in such cases calomel and other preparations of mercury, but have abandoned this treatment, as the remedies above mentioned seem to give more speedy relief. After the subsidence of the pain I have given the iodide of potassium or the muriate of pilocarpin with a view of clearing up the vitreous body, and this was usually accomplished in the course of some months.

CHLORALAMID AS A HYPNOTIC IN THE TREATMENT OF MENTAL DISEASES.

By D. F. KINNIER, M.D.,

NEW YORK CITY.

Chloralamid, which has been recently introduced as a new hypnotic in the treatment of mental diseases has lately been much prescribed and with varying results.

It has a slightly bitter taste, and can be given in the form of a powder placed on the tongue, or may be given dissolved in alcohol or water. In order to test the efficacy of this drug in the treatment of the insane, it was given in a number of cases, some of which are noted with the results obtained.

Case I. *Acute Mania.*—F. H——, a woman, aged thirty-seven. The first dose given consisted of thirty-five grains, which produced three and one-half hours' sleep at the end of two hours. On the second, third, and fourth occasions, thirty-five grains were given, resulting in four and one-quarter hours' sleep at the end of one hour. On the fifth occasion the patient was more excitable and restless than on either of the previous occasions, and forty-five grains were given, producing three hours' sleep at the end of an hour. Three more observations were made, the dose given being forty five grains each time, and produced five hours' sleep at the end of forty-five minutes. Sulfonal, bromide, and chloral were also given in this case, but with less satisfactory results than were obtained from the use of chloralamid.

Case II. *Acute Mania.*—J. R——, a woman, aged thirty-five. Had periodic attacks of excitement, during which she raved, swore, and shouted. Refused food and was fed by tube. Patient received thirty five grains, and received four hours' restless sleep at the end of two hours. The second time she received forty grains, and five hours' sleep resulted at the end of one hour. The third consisted of forty-five grains, which produced six hours' sleep at the end of thirty-five minutes. The next time she was given forty-five grains, which produced five hours' sleep at the end of forty minutes. Patient was occasionally restless at night, and several observations were made with doses of forty-five grains, resulting in five or six hours' restless sleep at the end of one hour.

Case III. *Acute Mania.*—S. H——, a woman, aged thirty-six. Gives a history of intemperance, and has at present active hallucinations of hearing. Has marked periods of excitement, when she calls on God and the doctors to kill her, as she wishes to die. Was given twenty-five grains, which had no effect. Six hours later she was given thirty-five grains, which resulted in one hour's sleep at the end of two hours. On each of the three following nights she was given forty-five grains, resulting in four hours' sleep at the end of one hour. The bromides and chloral seemed to produce better effects in this case than either chloralamid or sulfonal.

Case IV. *Acute Mania.*—F. H——, a woman, aged thirty-three. Previous to taking chloralamid she had obtained a fair night's rest with thirty-five grains of sulfonal. Becoming quiet the patient received no sedatives until she again became excitable. She was now given thirty-five grains of chloralamid, and sleep for three hours resulted at the end of one hour and a quarter. On awaking she was quite excitable, and was given a dose of forty-five grains, resulting in four hours' sleep at the end of forty-five minutes. Third dose was forty-five grains, which produced five hours' sleep at the end of half an hour. The three days following, her mania seemed to have lost most of its delirious character, and during this period she received three doses of thirty-five grains each, which resulted in five hours' sleep at the end of forty-five minutes. The patient becoming quiet, the medicine was not given for several days, at the end of which time she was occasionally restless at night, but forty-five grains administered at 7 P.M. usually gave her a comfortable night's rest.

Case V. *Acute Mania.*—H. A——, a woman, aged thirty-four. She was restless, excitable, and continually trying to get out of bed. She slept little the first night, and the following morning was much excited, rolling about in the bed and pulling at the bedclothes. She received thirty-five grains, which produced two and one-half hours' sleep at the end of one hour. In the evening she was apparently less maniacal, and was again given thirty-five grains, resulting in three hours' sleep at the end of forty minutes. The next dose was forty-five grains, resulting in three hours' sleep at the end of an hour. The two nights following she was so maniacal that hypodermic medication was resorted to. The next few nights she was noisy and restless, but her maniacal condition was less marked. She occasionally received forty-five-grain doses, which produced between five and six hours' sleep at the end of an hour.

Case VI. *Chronic Mania.*—B. S——, a woman, aged thirty-five. On admission was maniacal and assaulting; her sleep power seemed to have gone; she would walk up and down the room beating on the walls the greater part of the night. She was first given thirty-five grains, resulting in one hour's sleep at the end of an hour and a quarter. On the second occasion she received forty-five grains, which resulted in three hours' sleep, at the end of forty minutes. The third and fourth doses were thirty-five grains, which produced two hours' sleep at the end of forty-five minutes. She was given four doses of forty-five grains each, resulting in from five and one-half to seven hours' sleep at the end of three quarters of an hour to an hour.

Case VII. *Chronic Mania.*—E. F——, a woman, aged forty, with a history of intemperance. She has been noisy and restless for the past few nights, and received on each occasion thirty-five grains of sulfonal, which produced six or seven hours' restless sleep. She was quiet for a few nights, but again becoming noisy, she was given, for the first time, thirty-five grains of chloralamid, which resulted in five hours' restless sleep at the end of an hour. She afterward received three doses of forty-five grains each, and four doses of thirty-five grains each, the former producing five hours' sleep at the end of forty minutes, the latter resulting in four hours' sleep at the end of an hour.

Case VIII. *Primary Dementia.*—A. B——, a woman, aged twenty-two, admitted in a state of partial stupor. A few days later she became more stupid, apathetic, and apparently demented, and wholly unable to care for herself. Later she was observed to speak and notice her surroundings, and seemed to recover her speech, and appeared brighter and worked about the ward. At times when helping in ward work she was observed to be excitable, especially if interfered with. She quarrelled with a patient, and suddenly became violent and assault-

ing; she was given hypodermic injection of hyoscyamine. That evening she was restless and noisy, and received forty-five grains of chloralamid, which produced four hours' sleep at the end of one hour. She next received forty grains, which resulted in four hours' sleep at the end of thirty-five minutes. She again relapsed into a state of stupor which continued for a few days, and was followed by a period of excitement, for which, on five occasions she received forty-five-grain doses, resulting in four to five hours' sleep at the end of thirty-five minutes.

CASE IX. *Senile Dementia.*—J. E——, a woman, aged sixty-three. First night received a dose of twenty-five grains, sleep resulting in two hours and continuing for three and one-half hours. Second night no medicine was given. Third night she was noisy and restless, and was given thirty-five grains, resulting in five hours' sleep at the end of forty minutes. Fourth, fifth, and sixth nights she received forty-five grains, and slept for six hours at the end of an hour. She later occasionally received doses of thirty-five grains, which produced five to six hours' sleep at the end of an hour.

CASE X. *Secondary Dementia.*—A woman, aged thirty-eight. Five observations were made, the doses ranging from twenty-five to forty-five grains, producing two to five hours' sleep at the end of one hour, and also at the end of thirty-five minutes.

CASE XI. *Chronic Insanity.*—M. S——, a woman, aged sixty, was generally restless, and noisy at times, during the night, unless some sleep-producing drug was administered. Three doses of thirty five grains each were given on alternate nights, which resulted in five hours' sleep at the end of an hour.

CASE XII. *Acute Melancholia.*—A. N——, a woman, aged twenty-seven, was much agitated and in fear of being killed. Melancholy, and refused her food as she thought it was poison. Fed three times with tube. Became restless and sleepless at night, with melancholic agitation during the day. Would frequently get out of bed at night, and, pounding on the door, would say there were people in the room who wished to kill her. The first night she received thirty-five grains and slept four hours at the end of thirty-five minutes. The next night she received forty-five grains, sleep resulting for five hours at the end of half an hour. The third and fourth nights she received thirty-five grains, sleep resulting for five hours at the end of half an hour. The fifth night she received forty grains, and slept six hours at the end of one hour.

The following day she appeared quite calm and orderly, but was slightly depressed. She was occasionally restless at night, but when given thirty-five grains she obtained from five to six hours' sleep at the end of an hour.

CASE XIII. *Acute Melancholia.*—J. N——, a woman, aged twenty-four. Received on first occasion twenty-five grains at 7 P.M.; sleep occurred at 8 P.M., and continued two hours. She was next given forty-five grains, and three hours' sleep resulted at the end of one hour. Third dose same as second, result similar. She was given forty-five grains on several occasions afterward, and sleep resulted at the end of forty-five minutes for five or six hours.

CASE XIV. *Acute Melancholia.*—A woman, aged thirty-two. Patient received either chloral and bromide or sulfonal at bedtime. She was given thirty grains of chloralamid on three successive nights, resulting, in half an hour to an hour, in sleep amounting to five and six hours. On the fourth night she received forty-five grains, which produced seven hours' sleep in half an hour, of a restless character.

CASE XV. *Acute Melancholia.*—A woman, aged thirty-one. Very much agitated on admission and quite restless during the day. She was immediately given thirty-five grains, resulting in three hours' sleep at the end of forty minutes. She appeared frenzied in the evening, and she was given forty-five grains, which produced four hours' sleep at the end of an hour.

On the three next nights she received three doses of forty-five grains each, resulting in six hours' sleep at the end of forty-five minutes. She afterward received occasionally thirty-five grains, which resulted in five to six hours' sleep at about the end of an hour.

The hypnotic effect of chloralamid seemed in many instances to be too slowly produced, especially in maniacal cases characterized by much violence. When the drug did produce sleep in these cases, the sleep was of a restless character. On the contrary, in some cases of melancholia the drug seemed to act very well and in a short space of time; but I do not think its hypnotic effects are rapid enough to warrant its use in cases of acute delirious mania or in cases of great excitement where sleep is urgently required.

If given in large doses, sixty grains for instance, there is no doubt sleep will result in twenty or thirty minutes, but such large doses are apt to produce vomiting, vertigo, and other disagreeable symptoms. In beginning the use of this drug it is preferable to give twenty-five grains and increase to forty-five, which dose may be given without any unpleasant symptoms as a rule.

When the chemistry and physiological action of this drug is better understood than it is at present, we may look for better results, and although disappointing in some cases, yet in many cases it will be found a valuable hypnotic.

A METHOD OF ARTIFICIAL INFANT FEEDING.[1]

BY GEORGE B. FOWLER, M.D.,

NEW YORK.

THE human infant is an object of great solicitude. Every baby born has that interest centred upon him as though he were the first and last of his kind. He is a very dependent thing. Prior to birth he is part of another anatomy and derives his nutrition from the general supply. Subsequently, when he attempts a separate existence, he is apt to find himself the prey of innumerable and unpronounceable bacteria, and the target of domestic ignorance and commercial enterprise in the way of food.

As soon as the child severs its uterine connection it naturally establishes mammary union, and, under normal conditions, upon that monotonous supply it depends and thrives.

It is wholly unnecessary to state that indigestion and diarrhœa in children are serious matters, and to quote statistics in proof. All of this is perfectly well known, and the repetition of it need no longer serve to pad a paper on the subject. What we now want is the result of practical clinical experience and methods of cure. I strongly favor common-sense success against theoretical procedures based upon the microscopic examination of fæces and bacterial cultures. As far as I am informed, these latter have as yet added very little to our therapeutics as applied to internal medicine.

When it becomes necessary to resort to artificial alimentation in infants we must concoct a food which shall be nutritious, is easy to prepare, and whose physical and chemical characters shall be adapted to the delicate conditions which it has to meet. Cow's milk, of course, is our mainstay; it ever has been and now is. There is every reason why it should be. The only trouble with cow's milk is the fact that it is designed for a more perfect animal than a baby. The calf is born with far greater physical development than the human offspring.

All are agreed that the important difference between cow's and human milk is the excess of casein that it (the former) contains, and that it forms a too firm and insoluble clot. Hence the various devices designed to modify the solidity of the casein clot, and to adapt cow's milk to the delicate requirements of infants and invalids. I am quite familiar with the methods generally in use for this purpose, but have now come almost exclusively to employ

[1] Read before the Obstetrical Society of New York, May 20, 1890.

that which it is the object of this brief paper to describe. It is as follows:

Put four tablespoonfuls of rice into three pints of water, and boil half an hour; then set aside on back of range to simmer during the day, water being occasionally added by the cook to maintain the original three pints. At night strain through a colander and place on ice. When cold a paste is formed. Three tablespoonfuls of this paste are added to each nursing-bottle (half pint) of milk, and fed during the next day, a fresh supply of rice-paste being under way in the meantime. Should there be constipation I use farina, prepared in same way, and used in the same proportion. Rice is astringent, farina laxative.

From a series of careful experiments with these pastes I am convinced that the hydrated starch granules interpose themselves between the particles of casein, and prevent the formation of solid clots. By this process we do not dilute the cow's milk, but, on the other hand, soften it, and add a constituent, carbohydrate, in which, compared with mothers' milk, it is weak. No fear may be had but that starch thus treated and administered will be digested by a child of three, or even two months. My success with this preparation has been such that I offer it to the profession with great confidence.

56 West Fiftieth Street.

Clinical Department.

A REMARKABLE CASE OF ACUTE POISONING FROM THE EXTERNAL USE OF THE TINCTURE OF IODINE.

By GEORGE THOMAS JACKSON, M.D.,

visiting dermatologist to the randall's island hospitals.

On May 1st there was received into my service in the Randall's Island Female Hospital a woman with the following history:

Mrs. A——, about fifty years of age; Irish. General health is good. The patient is enormously fat, and the skin is fair, thin, and soft. She says that three days before coming into the hospital, she had a pain in the right side of the abdomen, for the relief of which she had a little girl rub into her side "half of five cents' worth of iodine." This was done at nine o'clock in the evening. At one o'clock she awoke with a feeling of great nausea, and vomited six or seven times a yellow fluid that was very acid, so that it burnt her throat. The next morning she found that there was a good deal of redness of her right arm, and a large blister upon it. The dermatitis spread rapidly from here, and within twenty-four hours it had involved the face, neck, shoulders, left arm, and appeared in patches on the trunk. Then bullæ appeared on the legs, and in this condition she was admitted to the hospital.

When first seen by me, the eruption was evidently subsiding. The arms, face, neck, and trunk, showed evidence of a lessening dermatitis, being red and scaly. The face was somewhat swollen, and there was a yellowish green crust on the right forearm. On both legs were a number of irregular shaped figures with a red outline, which without doubt were the sites of the bullæ. There were also one or two bullæ with turbid contents. The tongue was greatly swollen, red, and glazed. The patient complained of a feeling of prostration, of great burning and discomfort in the skin, of complete anorexia, and pain, and burning at all attempts at deglutition. She also said that her throat and stomach felt raw.

She was ordered a strict milk diet, water *ad lib.*, an alkaline diuretic, and a mouth wash of chlorate of potash. Locally it was directed that she be smeared over with vaseline, and powdered with corn-starch powder, two or three times a day. Under this plan of treatment she rapidly improved, as far as her skin was concerned, so that within two weeks, there was only a slight erythema of the skin remaining.

The disturbance of her digestion was not so easily controlled. She was troubled with vomiting so that whatever she drank was returned in a short time. But within three weeks' time this all passed away, and she was discharged in good health.

In this case it is hard to believe that the profound constitutional disturbance was not due to the patient having swallowed the iodine. But this, she positively denies. If her statement is true, the case is certainly a remarkable instance of idiosyncrasy toward iodine.

14 East Thirty-first Street.

PHENACETINE IN INSOMNIA.

Dr. F. Peyre Porcher, of Charleston, S. C., writes: "I desire to call special attention to the extreme value of phenacetine as a remedy for insomnia. Given at night in a little water it is tasteless, innocuous, and induces sleep. I am confident, also, after repeated trials, that it is the best and most unobjectionable substitute for morphia. It causes sleep when, of course, pain is in abeyance, unless the pain be more than ordinary, and morphia hypodermically may then be required. The remedy may be repeated and the dose increased to seven or ten grains.

"Suffering from chronic rheumatism of the forearm, I have tested it repeatedly in my own person, and have given it to many who have suffered from insomnia, or inability to sleep from any transient cause, fatigue, nervousness, excitement, etc., in either sex.

"I see that sulphonal has recently been advised. No accusations have ever been made against phenacetine, whereas, sulphonal, antipyrine, and antifebrine have at times been found to possess toxic qualities.

"I have made comparative tests of the four agents, and believe that phenacetine has a great future for the two purposes above indicated. It may also be used in children who are sleepless from fever or excitement."

Progress of Medical Science.

Tissue Metabolism in Cancer.—Dr. F. Müller has made some careful comparative observations upon the urine in cases of cancer and other wasting diseases, and in simple starvation. He finds that in the cancerous the excretion of nitrogen far exceeds the amount ingested, and infers that this excess must in consequence be derived from the disintegration of the albuminoids of the body. However, in two out of seven cases this loss was not greater than occurred in other individuals similarly insufficiently nourished. The chlorides were, on the other hand, notably diminished, a fact, he thinks, pointing to the source of the excreted nitrogen—viz., from the organ albumin and not from the circulating albumin. Obviously, however, many diseases share, with carcinoma, in this disintegrating process, as Müller showed to be the case in chronic febrile affections, especially severe forms of malaria, in leukæmia and pernicious anæmia. Previous observers do not coincide in their statements on this head as regards leukæmia. Voit and Pettenkofer found no marked evidence of increased metabolism in this affection, and Fleischer and Penzoldt concurred in this so far as regards mild cases. But in severe cases the last-named find the urea to be increased both absolutely and relatively. Sticker and Klemperer arrived at the same conclusion. Respecting pernicious anæmia, there is a concurrence of testimony in support of increased nitrogenous excretion. Reverting to cancer, this evidence, Müller thinks, goes to prove that malignant disease excites the formation of metabolic products which are poisonous to the organism. He points out that cachexia develops in the cases of malignant growths, no matter how limited, and without their involving any important organ; whereas a non-malignant tumor may attain great dimensions without affecting the excretion of urea. At the same time no

such poison or ferment destructive of albumin can be isolated from cancerous tumors, although the fact pointed out by Feltz, that the urine of the cancerous is more toxic to animals than that of healthy individuals, is, with other facts, highly suggestive of that view.—*The Lancet*, May 10, 1890.

Kola-nut for Sea-sickness. — Dr. C. W. Hamilton, of the British Navy, writes to the *British Medical Journal* of May 10, 1890, that he has found the seed of the kola (*Sterculia acuminata*) a most successful remedy in sea-sickness. From half to one drachm of the seed was slowly chewed, and in about half an hour the distressing symptoms of the malady gradually disappeared. The writer had never found any drug to act as well as this, and believes that further trials will prove it to be an effectual remedy for sea-sickness.

Sodium Salicylate in the Treatment of Chorea.—In an article in the *Bulletin Général de Thérapeutique*, No. 16, 1890, Dr. Dresch speaks very favorably of the action of salicylate of sodium in cases of chorea. The disease, he says, is of greater gravity than is generally supposed, for it not infrequently causes death either directly or indirectly. The importance, therefore, of an intelligent and active therapy is manifest. He believes that chorea is a microbial disease, the micro-organism of which is probably of the same family as that of rheumatism. The choreic movements are to be regarded as reflexes provoked by the presence in the tissues of the specific microbe, and are similar to the cough of pertussis, the spasms of tetanus, the premonitory chill of certain fevers, etc. Having these views as to the nature of the disease, he adapts his therapeutic measures to them, as far as it is possible to do so, although he admits freely the inefficiency of salicylic acid as a microbicide. The treatment should be begun at the earliest possible moment, and should be energetic, whether the beginning of the disease be severe or mild. The drug is not given as a germicide or as antirheumatic, but rather because of its action upon the medulla and cord, where it affects the motor centres as well as the sensory, thus restraining the movements of chorea as well as the pain of rheumatism. It is probable also that it would act equally well in diminishing the severity of the paroxysm in whooping-cough, though the author has never tried it in that affection. It is to this sedative effect of the drug that he attributes the fact that he has never seen any excessively severe cases since beginning its use, and has not been obliged to have recourse to any of those agents which calm the paroxysms only by stupefying the patient. But another great advantage possessed by the salicylate is that it increases the elimination of waste products, being, like benzoic acid and its derivatives, a solvent; in other words, it opens the kidneys instead of closing them as do quinine and antipyrine, which are so often given in chorea. It is evident that the choreic movements must greatly augment the amount of waste products, both muscular and nervous, thrown into the circulation, which products are toxic and of themselves excite convulsions. It is of the utmost importance, therefore, that any remedy given for the disease should favor the elimination of these materials by the kidneys and other emunctories. Dr. Dresch has found the salicylate well borne in most cases, a child of twelve years taking without trouble as much as sixty grains in the twenty-four hours, the only precaution being to give the drug in small and repeated doses well diluted with slightly alkaline water. It is not usually necessary to continue the use of the remedy more than eight or ten days. During the first period of the disease the patient should be kept in bed in a well ventilated room at an even temperature, and noise should be avoided as far as possible. A milk diet is the best if it is acceptable to the patient, but beef tea is not to be recommended. An enema of tepid water once a day is useful, but should not be insisted upon if the patient objects strenuously. Nothing, indeed, should be done that is liable to excite the child. As the disease begins to subside the treatment should keep pace with it, the child being allowed to get up and gradually resume his usual diet and amuse himself in his accustomed way. The author objects decidedly to sea-baths.

Dr. Luys' Process for Inducing Hypnotism.—In view of the uncertainty and the frequent failures which accompany the use of brilliant substances, and particularly, too, of the sustained attention and the fatigue required to develop hypnotism in new patients, Dr. Luys conceived the idea of presenting the brilliant substance mechanically instead of holding it in his own hands, giving it at the same time a rotatory motion in order to increase its influence. A patient required to keep his eyes fixed on bright particles which are revolving before him feels a sense of weariness after one or two minutes; he is insensibly fascinated, and to one's surprise one sees him gradually close his eyes and lie back in his chair, like a person falling fast asleep; he is then in the state of lethargy. Since Dr. Luys took to using revolving mirrors in order to produce hypnotic sleep he has never failed to be satisfied with the results. After two or three minutes patients of either sex who are operated on show themselves equally quick in feeling the effect, the young and the old alike. It can also be shown that this sleep, mechanically produced, is not, as might be expected, a natural sleep, but, on the contrary, it is a peculiar kind of sleep, for which he suggests the term mechanical sleep. It brings about in the nervous system a very special condition, which is distinguished by a general anæsthesia of the integuments, a catalepsy of the muscles, and a tendency to act upon any suggestions made. The importance of the practical results of this new method, which brings about hypnotization without fatigue and of prolonged duration, while it also enables one to subject several patients at once to the influence of hypnotism, is equally comprehended. Every day by its application he can have eight or ten patients in his laboratory who are all hypnotized together by the influence of a single revolving mirror placed in the centre of them. There is also an extremely interesting point to be deduced from the use of this method, viz., that by being thus able to produce without difficulty a state of trance in a number of patients, the patients are brought to a special condition of the nerves, by means of which they become ready to accept other influences and to undergo therapeutic influence. By this means he has been enabled to bring about a series of valuable practical results, such as the stopping of sharp pains, the restoration of sleep to persons tortured by prolonged insomnia, the renewal of the powers of locomotion in paralytics, and, in short, a number of improvements of very distinct character and of long duration. Besides, there is this in favor of the new methods which he has adopted, that out of two hundred patients actually brought under his notice he has never observed a single accident. The process, therefore, is perfectly harmless, and when employed with skill and prudence it can produce no harmful effects in the persons experimented upon.—*Fortnightly Review.*

Circumscribed Gangrene Following Vaccination.—At a recent meeting of the French Society of Dermatology and Syphilography, Dr. Balzer reported the case of a woman, twenty-three years of age, who had had malignant syphilis in early life, in whom, a few days after vaccination, there appeared at the site of the pustule a slough, which eventually attained the size of a five-franc piece. It was nearly four months before the slough became detached, leaving an ulcer that took two weeks to heal. The speaker thought this complication was not due to the syphilis alone, but rather to the accidental introduction of septic organisms at the vaccination, the soil being most favorable for their development. The quality of the virus was above suspicion, since this case was the only one of the kind in a number of persons who were vaccinated at the same time and with the same vaccine material. —*La France Médicale*, April 25, 1890.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, July 12, 1890.

THE UNITED STATES AND ITS DOCTORS.

THERE is certainly no more curious social phenomenon than that of the extraordinary popularity of the medical calling in this country as a means of securing a livelihood.

The subject is one that is often dwelt upon, but we doubt if many even yet realize the grotesque misproportion which medicine in the United States holds to other bread-winning occupations. Here are some of the naked facts in the matter:

France has 38,000,000 of population, 11,995 doctors, while it graduates 624 medical students in one year.

Germany has 45,000,000 of population, about thirty thousand doctors, and graduates 935 students in one year.

The United States has about sixty millions of population, nearly one hundred thousand doctors, 13,091 medical students, and graduates 3,740 students in one year.

Germany, which has relatively less than half as many doctors as America, is already groaning over its surplus. When one compares France with this country, the excess of medical men here seems most astonishing. A comparison of the United States with European countries, in whatever way it is made, leads one to think that there is something almost morbid in our medical fecundity.

THE EXCRETION OF GLYCURONIC ACID.

THE time is now long past when the reduction of a copper salt by urine in alkaline solution was regarded as a positive indication of the presence of sugar (glucose) in the urine. By careful and prolonged observation and study, it has been shown that in many cases this reduction occurs when no trace of glucose is present. The result is that reduction tests are now looked upon as merely *negative* tests for glucose, the *positive* tests being the fermentation and phenyl-hydrazin tests. But what is the nature of these non-saccharine reducing agents? Slight reduction may be produced by many substances which occur in normal or diseased urine, as, for instance, by uric acid, kreatinin, kreatin, allantoin, mucin and bile pigment, but not much attention need be paid to such slight reduction because the occurrence of glucose, for which these substances might be mistaken, in such small quantities, and for only a short time, would not indicate serious disease—diabetes mellitus being characterized by the *persistence* of *considerable quantities* of glucose in the urine.

In certain cases, however, large quantities of a powerfully reducing substance are found to be constantly present in the urine of persons who exhibit no symptoms of ill-health. Such persons were formerly considered to be the subjects of obscure diabetes mellitus, reduction-tests alone being relied upon. Further investigations, however, show that in certain instances urine, which powerfully reduces test solutions, does not ferment at all with yeast. The study of such urine has led to the isolation of the reducing substance, which has been named glycuronic acid.

In the *British Medical Journal*, January 25, 1890, p. 169, Dr. Ashdown publishes some interesting notes concerning this compound. A large quantity of urine containing it is evaporated down to a sirup, and treated with barium hydrate, and afterward with sulphuric acid, when crystals of the anhydride form are obtained. It is very soluble in water, and appears in urine combined with urea, reducing copper, bismuth, mercury, and silver solutions. In its different combinations it affects the ray of polarized light differently, so that it cannot be distinguished from glucose in urine by this method. It does not ferment with yeast. (It is not probable that it gives the phenyl-hydrazin test, a method of which the author appears to be ignorant.)

Glycuronic acid appears in the urine after the administration of chloral hydrate, croton chloral, camphor, etc., and of morphia and chloroform. Appearance after the use of morphia, by mouth or subcutaneous injection, is the rule, while occasionally the use of chloroform is not followed by the presence of any reducing substance in the urine. Glucose is not found, as was formerly supposed, after the administration of these drugs. Ether does not, as far as known, give any reducing powers to the urine.

As the result of certain experiments described, in which section of the renal nerves of one side was made, he is led to believe that the glycuronic acid which appears in the urine is not simply exuded from the blood into the kidney ducts, but that its secretion is the result of some distinct chemical process presided over by the renal epithelium.

But does glycuronic acid occur in the urine of healthy persons who have not been taking drugs? After a prolonged search, involving several hundred cases of healthy and diseased persons, Dr. Ashdown found one case in which very large quantities of glycuronic acid were passed daily, by a man about twenty-four years of age, who was apparently in excellent health and gave no evidence of diabetes mellitus. The urine was not increased in quantity nor in density.

This case he believes to be the first and only one recorded in which glycuronic acid was shown to be present in large quantity. For the benefit of our readers, however, we may refer to the very interesting case discussed by Drs. Brune (*Boston Medical and Surgical Journal*, December 30, 1886, and January 27, 1887), Marshall (*Medical News*, January 8, 1887), and Bond (*Medical News*, August 6, 1887), in which an apparently healthy man was refused by several insurance companies because his urine contained, constantly, large quantities of a powerful reducing substance which did not ferment with yeast, and did not give the phenyl-hydrazin test for sugar. Careful study was bestowed upon it, and it was found to be an acid, but whether it was identical with glycuronic acid or not, had not been determined.

As Dr. Ashdown suggests, cases classed as diabetic may frequently belong to the "glycuronic" class, and, likewise, urine may at times contain both glucose and glycuronic acid, when the tests for each might be somewhat obscured by the reaction of the other. There is no reason why other powerful reducing substances than glycuronic acid should not occasionally occur in the urine of healthy persons.

THE JAPANESE MEDICAL CONGRESS.

In the early part of April of this year the first national assembly of Japanese physicians was held in Tokio. The attendance was estimated at about three hundred, all of them being Japanese, the foreign physicians resident in Tokio for some reason taking no part in the Congress. The sessions lasted an entire week, and very many papers were read, but none of them, if we may judge from the titles alone, offered anything of special interest to Western medical men, as giving them any information concerning the diseases peculiar to Japan or the special conditions affecting health in that country. In commenting upon this lack of distinctly national papers, a writer in the *Sei-I-Kwai Medical Journal* says that it shows a want of appreciation of the fact that Western medicine must be not adopted simply, but adapted to the conditions present in the East. The natural history of a people and their constitutional peculiarities should be taken into consideration when it is a question of treating the diseases which affect them. The basis of scientific medicine is the same for all lands and all peoples, but the superstructure must differ with varying conditions of constitution, climate, etc. In all new countries (new in relation to European civilization) the fundamentals of medical science must be taught by foreigners, but when the natives are themselves proficient in these the further development of the science in their own country must be left to them. They know their people and they know the general principles of the healing art, and it is for them to apply their knowledge in these respects in such a way as to obtain the best results. The foreign physician has then fulfilled his mission, and can safely turn over the further development of his art to his native pupils.

News of the Week.

Prescribing Patented Medicines.— One of the questions proposed for discussion at the annual meeting, recently held, of one of the State medical societies, was the following: Sulphonal, antipyrin, and the like are patented medicines. It is contrary to the spirit of the code of ethics for physicians to prescribe them, or in any way to promote their use. They are not patented in Germany, where they are manufactured, and are highly recommended by the leading physicians in Europe. How can this hindrance to their employment by physicians in this country be removed? Another was to define the form of advertising which is forbidden by the code of ethics. Unfortunately, none of the members seemed disposed to discuss these interesting points, and consequently they went unanswered.

Medical Education in the Homœopathic Colleges.— The American Institute of Homœopathy, at its forty-seventh annual session, held at Waukesha, Wis., last month, upon the suggestion of its collegiate committee, representing the thirteen colleges of this school, voted to require a four years' course of medical study from all students entering its colleges after the session of 1891–92.

The Cholera in Spain.—Cholera has reappeared in the province of Valencia, which was at one time reported free from the disease. Cases are also said to have been discovered in Portugal and France, but these were probably of simple cholera and not of the epidemic form. The greatest danger to this country, should the disease prove to be Asiatic cholera, will probably be through Cuba, as that island is in very close relations with Barcelona, where there have been numerous cases reported.

The Journal of Balneology would be more honest if it gave credit for the numerous articles taken bodily from our columns.

Yellow Fever.—Several cases of yellow fever occurred recently at Malaga in the persons of travellers coming from infected regions.

Rules of the Washington State Board of Medical Examiners.—*Section* 1. Any applicant for examination and license to practise medicine in this State, who is a graduate of over five years' standing before making application for such license, shall be considered an "old practitioner," and any applicant who is a graduate of less than five years shall be considered a "recent graduate."

Section 2. Applicants who are old practitioners shall be required to obtain a minimum marking of sixty-five per cent. in the practice of medicine, surgery, materia medica, obstetrics, and diseases of women and children. A minimum marking of thirty-five per cent. in physiology, anatomy, and pathology. A minimum marking of twenty-five per cent. in chemistry, histology, medical jurisprudence, preventative medicine, diseases of the eye and ear, and diseases of the nervous system.

Section 3. Applicants who are "recent graduates" shall be required to obtain a minimum marking of sixty-five per cent. in the practice of surgery, materia medica, obstetrics, and diseases of women and children. A minimum marking of fifty per cent. in anatomy, physiology, pathology, and diseases of the eye and ear. A minimum marking of thirty-five per cent. in histology, preventative medicine, chemistry, and medical jurisprudence.

Section 4. No applicant shall be issued a license to practise whose general average in all the subjects in which he is examined is less than sixty-five per cent.

The board has adopted the form of license now in vogue in Minnesota.

St. Vincent's Hospital, in this city, is to be enlarged by a wing to extend along Twelfth Street from the wall of the present building on that street to the corner of Seventh Avenue. The wing is to be built to conform with the style of the Twelfth Street frontage, which was put up in 1882. The building will be of brick with brown stone trimmings, four stories high, and of simple but substantial style. The addition will be used for purposes similar to the uses to which the present building on Twelfth Street is put, being divided into small wards and private rooms. The cost of the new wing will be $60,000.

Pyoctanin, or Methyl Violet, in Surgical Practice.—Experience in the surgical policlinik of Dr. Kölliker, of Strasburg, with the use of pyoctanin has given entirely negative or unfavorable results. In purulent processes and granulating wounds little improvement was obtained, while the intense staining of the parts is very disagreeable to both patient and operator.

The Medical Care of the Poor in Richmond.—The city of Richmond, Va., with 100,000 inhabitants, has, says the *Virginia Medical Monthly*, no city hospital and no public city dispensary. This must be a halcyon spot for the young doctor, if all the evils of unlimited dispensaries and hospitals and poor relief are true. New York has sixteen times the population of Richmond, but it has fifty times its means of caring for the sick poor, and treats 300,000 or more people every year for nothing. We are glad the Richmond doctors are urging the need of more hospitals and dispensaries, but when the "boom" comes let them not complain.

The Legal Enforcement of Female Medical Attendants upon Insane Asylums.—The investigation of the Cook County Insane Hospital, in 1889, demonstrated, says the *Medical Standard*, "the dangerous folly of making sex a legal prerequisite to appointment to a medical position. A female physician appointed on such principles neglected her patients to such an extent that they were devoured by vermin and scourged by scurvy. Despite these serious neglects this physician was supported by hysterical female societies, simply because she was a woman." This experience is quite in accordance with the views expressed by the MEDICAL RECORD. Medical women can be of much service in an insane asylum, as consultants or internes; but it is not just or necessary to force them upon the management.

The Woman's Medical College of this City will move into a new and commodious building next fall.

Railroad Surgeons.—It appears that some railroad companies hire doctors by contract and get a large amount of work from them, including expert testimony, for very small sums of money. We do not see what can be done about it as long as there are plenty of men willing to make the contracts. The West Virginia Medical Society, however, has

"*Resolved*, That this society appoint a committee to take such steps as will be necessary to bring to the attention of societies of adjoining States, and the American Medical Association, the relations assumed by railroad corporations in establishing systems of contract surgeons, and the rules adopted for the government of their surgeons, contrary to the spirit and letter of the code of ethics; and the small compensation given for such unlimited services; all of which is detrimental to the general interests of the profession by lowering the value of medical services."

Records of the Medical Department of the Confederate Army.—Dr. Joseph Jones, Surgeon-General of the United Confederate Veterans, has issued the following circular: "A movement is on foot, under an organization known as the Association of United Confederate Veterans, whose objects are to secure, among other things, the following items: 1. Name, age, nativity, date of commission in the Confederate Army, nature and length of the service of each and every member of the medical corps of the Confederate States Army. 2. Obituary notices and records of all deceased members of the medical corps of the Confederate Army. 3. The titles and copies of all field and hospital reports of the medical corps of the Confederate Army. 4. Titles and copies of all published and unpublished reports relating to military surgery and all diseases of armies, camps, hospitals, and prisons. The object proposed to be accomplished by the Surgeon-General of the United Confederate Veterans is the collection, classification, preservation, and final publication of all the documents and facts bearing upon the history and labors of the medical corps of the Confederate States Army during the civil war of 1861–65. Everything which relates to this critical period of our national history which shall illustrate the patriotic, self-sacrificing, and scientific labors of the medical corps of the Confederate States Army, and which shall vindicate the truth of history, should be industriously collated, filed, and finally published. It is believed that invaluable documents are scattered over the whole land, in the hands of the survivors of the civil war of 1861–65, which will form the material for the correct delineation of the medical history of the corps which played so important a part in the great historic drama. Death is daily thinning our ranks, while time is laying its heavy hand upon the heads of those whose hair is already whitening with the advance of years and the burden of care. No delay, fellow-comrades, should be suffered in the collection and preservation of these precious documents. This task of collection of all documents, cases, facts relating to the medical history of the Confederate Army invites the immediate attention and co-operation of his honored comrades and beloved compatriots throughout the South."

Collapse Following the Administration of Sodium Salicylate.—Dr. A. G. Auld reports in *The Lancet* of June 14, 1890, two cases in which alarming symptoms of collapse followed the exhibition of salicylate of sodium for rheumatism. The dose in each case was about one hundred grains a day. The injurious effects were attributed by the author to impurities in the preparation used, and not to the drug itself.

Fresh Air Mission in St. Louis.—The St. Louis Bridge Company's Fresh Air Mission was opened a week or so ago, and from now until September 1st, women and children will be admitted after seven o'clock each evening, without charge, to the upper roadway of the bridge. For several years past this has been done by order of Dr. Taussig, the general manager of the bridge, and hundreds of persons have been thus enabled to take advantage, during the extremely sultry weather, of the fresh breeze which always blows from the river.

Dry Gangrene in a Child Two and a Half Years of Age.—Dr. C. M. Kelley writes that the account of this case which appeared in our issue of July 5th, was wrongly credited to himself, whereas the author was Dr. W. H. Hubbard, of Marion, Ind. The paper was read before the Delaware District Medical Society, and was ordered to be published. The Secretary of the Society, Dr. Kelley, forwarded the paper on behalf of the author, Dr. Hubbard.

Dr. William David Bizzell, one of the Faculty of the Southern Medical College, died at Norcross, Ga., June 30th. Dr. Bizzell was born May 31, 1850, in Greene County, Ala., and was the son of James C. Bizzell. He was educated in the common schools, and graduated at the Medical College of Alabama in 1873, taking the Nott medal. He was a member of the Alabama State Medical Association and a counsellor of that body since 1873. He served as Demonstrator in Anatomy at the Medical College of Alabama and also as County Physician. At various times he contributed valuable papers to medical journals, the best known and most important of which was an article on "Climate of the United States Considered with Reference to Pneumonia and Consumption."

An Epidemic of Typhoid Fever occurred recently at Waterbury, Conn. Forty persons were infected from a dairy farm in the neighborhood.

Surgeon Parke has been lionized in London to a great extent and apparently with great justice. Mr. Parke is a modest young man, and has not figured in medicine heretofore; but Stanley gave him most kindly and generous acknowledgments, and Lieutenant Stairs said that Surgeon Parke had saved the life of every white man in the expedition, and had saved the life of Stanley twice. It is gratifying to find that medical services are so highly and justly appreciated. A dinner was given to Mr. Parke on June 6th, at which Sir Andrew Clark presided, and Surgeon Parke was so overwhelmed with compliments that for a time he was too embarrassed to speak. The editors of *The Lancet* have presented Mr. Parke with a massive silver salver.

Dr. Frederick Hand, of Morris, Ill., died on June 14th, aged seventy-four. He was the oldest and the most widely known and distinguished physician in the county.

When Judges Differ.—It has often been pointed out that though the phrase "doctors differ" is so commonly quoted as a reproach to the medical profession, it is one which, both in its origin and its true application, refers at least as much, if not more, to experts in the law, engineering, and in other so-called exact sciences. The Lord Chancellor (Lord Halsbury), speaking at the Mansion House not long ago, went so far as to make it a particular merit of the judges, and one of their claims to the public esteem which they so justly enjoy, "that they spent nearly half their time in differing from their learned brethren."—*British Medical Journal.*

The State Charities Record is the name of an authorized periodical of the State Charities Aid Association of New York, edited by a committee appointed by the Board of Managers. It is published monthly during nine months of the year.

The Virginia Examining Board.—Dr. R. A. Lewis has resigned from the Virginia State Board of Medical Examiners, and gives as his reason the laxity of the members in their work, and failure to adhere to the standard they had adopted. He states, in a letter to the *Southern Clinic*, that the applicants are required to answer seventy-five per cent. of all questions satisfactorily; and a failure to answer thirty-three and one-third per cent. on any one section shall cause the applicant's rejection. But one candidate failed to answer seventy-five per cent., and received only twenty-four on one branch, and was nevertheless passed, every member but Dr. Lewis voting for the candidate. Dr. Lewis very justly remarks that the proper object of sympathy is the future patient of the incompetent practitioner; and that sympathy for an ignorant applicant is misplaced.—*Medical Times and Register.*

The Result of the Burning of an Insane Asylum.—It has now, says the *Montreal Medical Journal*, been authoritatively ascertained that nearly one hundred persons—mostly women—lost their lives in the dreadful holocaust at the Longue Pointe Asylum.. In addition to these, a large, but uncertain, number of the patients have since died in consequence of the exposure and hardships.

Dr. von Nussbaum, the distinguished Professor of Surgery, theoretical and clinical, in the University of Munich, having, at his own request, been relieved on grounds of health from the special work of the clinical ward and operating theatre, has received the Order of Merit of St. Michael of the Second Class, in recognition of his services as a teacher and man of science.

Dr. Ottmar Angerer has been promoted Ordinary Professor of Surgery in the Medical Faculty of the University of Munich, and Interim Lecturer and Operator in Clinical Surgery.

Dr. Henry H. Longstreet, one of the oldest and most prominent physicians in Burlington County, N. J., died at his home in Bordentown last week, aged seventy-one years. He graduated from the College of Physicians and Surgeons in 1842, and had been engaged in the practice of medicine nearly half a century.

The Dispensary System in Florence, Italy.—Florence, celebrated for her organization of the "Misericordia"—a Society for the gratuitous assistance of families visited by sickness or death—has supplemented that time-honored institution by another called "La Guardia Permanente Medico-Chirurgica." Every Florentine citizen, male or female, whose circumstances do not admit of paid medical consultations, may now, at any hour of the day or night, by calling at or sending to the headquarters of the "Guardia," in the Via Sole, secure immediate assistance for any injury or disease from which he or she may be suffering.

Protection of the Insane against Fire.—In view of the frightful loss of life from the burning of asylums at Montreal, Canada, and Utica, N. Y., the Committee of Charities of the Massachusetts Assembly has framed a bill requiring iron fire-escapes to be constructed on the outside of all asylums for the insane throughout the State. The New York Lunacy Commissioners have also promulgated regarding this subject.

"Oristry."—According to the *Boston Medical and Surgical Journal*, Dr. J. L. Williams, of Boston, proposes the adoption of this term to signify the rapidly widening specialty of the dental and oral surgeon. The word is compounded of the initial part of *oral* and the terminal part of *dentistry*.

Central Wisconsin Medical Society.—At the annual meeting of this society, held in Madison on June 24th, the following officers were elected: *President*, Dr. Julius Noer; *First Vice-President*, Dr. C. R. Greene; *Second Vice-President*, Dr. J. A. Mack; *Secretary* and *Treasurer*, Dr. C. S. Sheldon; *Censors*, Drs. H. B. Favill, C. A. Gill, and Dr. Bancroft.

Society Reports.

AMERICAN NEUROLOGICAL ASSOCIATION.

Sixteenth Annual Meeting, held at Philadelphia, Pa., June 4, 5, and 6, 1890.

E. C. SPITZKA, M.D., PRESIDENT, IN THE CHAIR.

THE Sixteenth Annual Meeting of the American Neurological Association was held in the hall of the College of Physicians, Philadelphia.

The president, on calling the meeting to order for the business of the opening session, said that though there might have been in the history of the society a period when it had devolved upon the presiding officer to fill gaps in the programme, this was no longer the case. With such a plethora of scientific papers as confronted them communications by the president might well at this stage be omitted. He should like to thank the local Neurological Society for its courtesy and exertions on behalf of the National body and he would call attention to a very beautiful specimen of multiple thrombi of the circle of Willis prepared for their inspection. The patient from whom this was taken had been attacked by incomplete left hemiplegia. The facial portion had remained stationary while the rest had improved. Then there had been another attack, involving the other side, with paræsthesia and pain. The case had terminated in coma and death soon after the second seizure.

Unusual Forms of Chorea, Possibly of Spinal Origin.—This was the title of a joint communication by DR. S. WEIR MITCHELL and DR. C. W. BURR.

The first case described was one of inherited congenital chorea, possibly involving the spinal cord. The patient, a young man, eighteen years of age, had presented himself at Dr. Mitchell's clinic in 1889, complaining of constant involuntary movements of the legs, arms, and head. The history of the patient's family was of special interest in this case. His maternal grandmother had suffered from chorea for many years, not from birth, but she had while so affected given birth to the patient's mother, who was choreic from birth till death. Both the patient's parents had died of phthisis. There was no history of other cases of chorea or any nervous disease in the family. The patient's choreic movements had begun in early infancy, probably from birth. As a child he was puny and of tardy development. His present condition was that of a fairly built young man, of good strength, weighing one hundred and thirty pounds. Other than the condition immediately associated with the chorea there was no physiological disturbance. The knee jerk was increased on both sides and the cremasteric, sole, and abdominal reflexes were marked. Ankle clonus was occasionally present and at times rigidity at the knee, the feet being then turned inward at the ankle. All the conditions were increased by emotion and the administration of moderate doses of strychnia. Sensation to touch, pain, and temperature were normal. While awake, the patient's entire voluntary muscular system was more or less in action. The sudden presence of a stranger emphasized the trouble. During sleep there was perfect quiet. No spinal tenderness existed, urine was normal and so, with some slight muscular insufficiency excepted, was vision.

Dr. Mitchell then read in detail two other cases, in which the patients were brothers, their father having, at forty-five years of age, developed alleged choreic symptoms. The first of these two cases had resembled in general aspect canine chorea.

The authors of the paper thought the first of the series of three cases, in which the disease had been through three generations, extremely rare, and that organic changes were present somewhere in the motor tract of the patient might, they thought, be admitted, because of the extreme chronicity of the affection, its resistance to all treatment, and the presence of very distinct ankle clonus and rigidity, these latter symptoms pointing to involvement of the cord. Whether the changes were confined to the cord it was more difficult to say. It was not wished to do more than indicate the spine as possibly implicated in all the cases.

DR. C. L. DANA said he thought the view taken by Dr. Mitchell, as to the relation of heredity in chorea, was the correct one.

DR. SACHS suggested that some of the features Dr. Mitchell had mentioned in detailing his cases of chorea resembled somewhat the peculiar disorders of movement noticed in children with spastic palsies. Some of these conditions made their appearance at a late date and might be either mild or severe in character.

DR. MITCHELL said the view he had advanced was rather an hypothesis than a theory.

DR. SACHS said that he had seen these peculiar disorders present after every trace of the early paralysis had disappeared. In two of the cases cited the patient had shown exaggerated reflexes which were also found in the congenital case, it was possible that one or other of the cases might be congenital palsy, in which the symptoms of palsy had disappeared. He could not abandon the idea that some of the cases described might show changes in some part of the brain.

DR. E. D. FISHER stated that he had seen a great many such cases as Dr. Sachs had referred to. In the almshouse they had both adults and children whose history was that of congenital paraplegia or hemiplegia of cerebral origin, and in which the paralyses were associated with well-marked choreic movements. It had seemed to the speaker that many of these cases where the condition had remained chronic for so long a time were really not of the nature of ordinary chorea, which was a self-limited disease. He had always regarded these conditions as associated with sclerosis, leading to degeneration in the nerve-cells and nerve-fibres, and to descending degeneration in the cord. He had looked upon this as of cerebral origin because it was found that the mental powers, though not greatly affected, showed some dulness, especially in the acquisition of knowledge.

DR. F. X. DERCUM thought it was not at all improbable that a spinal centre might be affected. No doubt there was a form which was purely spinal.

DR. WEIR MITCHELL said that many years ago he had stated his belief that ordinary chorea should be classified into three distinct groups. It was true that cerebral changes could arise in these choreic conditions, but it was rare to see these conditions affecting both sides, no matter what the changes were in the brain. It was especially rare to see the trouble in both lower extremities. Therefore the first case alluded to was not chorea resulting originally from paralytic conditions accompanied by descending degeneration of the cord.

Double Consciousness.—Dr. Mitchell then alluded to the notorious case of Ansell Brown, who had left his home, assumed another name, and, as asserted, had lived for some time without knowledge of his previous existence. On regaining control of his proper identity he had returned home. Hypnotism had been recently tried upon him, and while under its influence the man's mind could be made to revert to incidents in his fictitious existence, while of his real identity he would then know nothing.

DR. C. K. MILLS had seen a number of epileptic cures in which there had existed in the patient a change of ideas as to personality.

DR. R. PARSONS thought the subject was of great importance from a medico-legal stand-point as the condition of changed consciousness might be urged in extenuation for the commission of crime.

DR. C. L. DANA said that some years ago he had occasion to go over the literature of the subject. The trouble was very much allied to epilepsy, and the result of his study led him to think that there were gradations of the disease, and that many of these cases were epileptics.

DR. KNAPP cited a case of hystero-epilepsy, in which there were decided spells of changed consciousness. As to the question of spinal chorea he was struck with the analogy of Sydenham's chorea with the conditions of ataxia, tonic spasm, and associated movements, of which he had recorded several cases, and to which some of these cases of chorea bore striking resemblances. It did not seem, however, that we were yet in a position to assume any one of these motor disturbances as having focal significance. They might have their origin anywhere within the motor tract, and he hoped to show that tumors were not unfrequently the cause.

The Weather in Relation to Neuralgic Pain.—DR. MITCHELL had had an intelligent patient, who was a great sufferer from neuralgic attacks; he had made elaborate studies and observations of the effect of variations of the weather upon the paroxysms. Briefly stated, the scientific findings were that the maximum of pain bore direct proportion to the prevalence of storms, and that the aurora was a certain precursor of neuralgic exacerbation.

Chronic Softening of the Cord; Senile Paraplegia.—DR. C. L. DANA, of New York, read a paper on this subject, narrating a case which, he said, established upon a firm foundation for the first time the fact that in the gray matter of the cord there might exist progressive softening from obliterating arteritis, just as found in the brain. It also established the pathology of senile paraplegia, no convincing evidence as to the nature of which had until recently been adduced. The question of non-inflammatory softening of the cord had been but obscurely dealt with, or let entirely alone. Acute softening had been described usually as synonymous with acute myelitis, but the term was wrongly used and should not be applied to inflammatory processes at all. It had of late been suggested that some of the cases of acute myelitis were in fact primarily necrotic processes, but evidence was lacking in substantiation. The case he would describe did not belong to the acute type but was a chronic myelomalacia of a systematic character.

The patient, an old man seventy years of age, of whose early life little could be elicited, except that he had been generally healthy, had about four years ago noticed some weakness of the legs. There was no pain. The condi tion had progressed until one year ago there was complete disability to walk, incontinence of urine, and trouble with the rectal sphincters. When seen in 1889 the man had presented the characteristic appearance of senility.

The symptoms of the disease were limited to the lower extremities, which were wasted and contracted, and knee-jerks were gone; there was also no clonus or trepidation. Sensation was everywhere normal, indeed, the condition was rather that of hyperæsthesia. No pains in the legs, girdle pains, or bed-sores. Up to the time of the patient's death, which had resulted immediately from exhaustion, the general symptoms had changed but little. The mind was clear, though senile. The only gross changes in the cord or membranes was noticed in the anterior horns in the sections taken low down. The more minute examination of microscopical sections had demonstrated the case as one of degenerative endarteritis with sclerosis, obliteration of the vessels causing the softening of the anterior horns and intermediate gray matter. This process was accompanied by secondary congestion, dilatation of small vessels and capillaries, but no hemorrhages. The condition was one of softening of the cord, precisely analogous to the so-called softening of the brain. It was not inflammatory and could not be termed an anterior polio-myelitis. It was not a cell atrophy and did not belong to the spinal forms of progressive muscular atrophy. While the change was without doubt largely a senile one, the cord did not correspond to the description of such conditions given by Leyden. The disease might, the speaker thought, be called a senile paraplegia from softening of the anterior horns due to obliterating arteritis.

Traumatic Neuropsychoses.—DR. G. L. WALTON read a contribution to this subject in which he dealt exhaustively with the questions of pathology and prognosis in injuries inflicted upon the nervous system by railway collisions and similar accidents. From the influence of Erichsen's views functional and organic injuries were for a long time indiscriminately classed together under the ambiguous and misleading term spinal concussion, while a common prognosis was given to all, leaving the student in doubt as to whether the worst or the best results might be anticipated. To H. W. Page was due the credit of having elaborately corrected this inaccuracy and of sifting out the comparatively rare cases of organic spinal disease, whose sad course and prognosis had been so long allowed to overshadow and include the more common cases in which no demonstrable lesion existed. To the latter class he had first applied the term traumatic neurasthenia. Dr. Putnam, in 1883, after reporting several cases of traumatic hemianæsthesia, called attention to the importance of looking for evidences of typical hysteria in the chronic as well as in the acute stages of so-called spinal concussion. Among those who had early inclined toward the modified views regarding the effects of trauma on the nervous system might be mentioned Dr. Dana, who, writing in 1883, had very appropriately added hypochondria to the two terms already applied. Spitzka had considered that spinal concussion could produce spinal irritation. These theories were in direct opposition to the idea advanced by Westphal, that a diffuse sclerosis was set up by the jar. This view had many followers, both in Germany and America. In a recent work by Clevenger, of Chicago, it was proposed to give to these cases the name "Erichsen's disease." This writer had regarded the spinal sympathetic system as the starting-point of the pathological process. Seguin, in Sajous' *Annual* of 1889, considered organic injury to the nervous system a rarity as resulting from the forms of trauma under consideration. Without exhausting the literature of the subject, it might fairly be concluded that there was at present a very general, though not unanimous tendency to abandon the theory of spinal concussion, and to regard the majority of the genuine cases as identical with already recognized functional forms of disease, rather than cases of organic spinal injury. Dr. Walton's experience had led him from the first to regard disease of the spinal cord resulting from trauma as of comparative rarity, when no dislocation or fracture had occurred, while Seguin's conclusion regarding the preponderance of subjective symptoms, and the degree in which we were generally dependent on the patients, were fully justified by the majority of the cases which had come under the writer's observation.

THE PRESIDENT regretted that the two works dealing with this subject were open to the stigma of having been written for trade purposes. It was important in discussing the question to avoid anything but its clinical aspect.

DR. P. C. KNAPP could not agree with the author of the paper in the position he had taken. Page had deliberately ignored most important neurological points. The theory of Charcot that many of these cases were hysterical was pretty well exploded.

DR. PUTNAM thought there were but few persons who could carry out successfully a system of deception during a long and searching examination, much less through two such investigations.

DR. F. X. DERCUM said that in his opinion there was a union of two factors. In some cases there existed actual cause for painful back. It was remarkable how the same story would be repeated unsolicited. It required a person well trained in the subject to relate such symptoms. Then there would be diminution of the heart-beat, great awkwardness of movement, marked disorders of sensation, errors in treating points of contact, and many other mistakes which a healthy man could not make. Many of these symptoms were such as the patients could hardly pick out for themselves. It was immaterial

whether the initial trouble was actual organic disease or profound functional disturbance, the fact remained that these people did not recover.

DR. W. R. BIRDSALL agreed that it was the most conservative view to say that there was possibly a traumatic lesion in a certain number of these cases, still he thought the great majority showed functional phases. The chief element in the production of these conditions, even if there existed organic changes in addition to the functional disturbance, was emotion, and psychic shock.

DR. D. INGLIS did not agree with the author of the paper. The profession had to take one position or the other in deciding whether these cases were organic or functional, and then a jury might do as it thought fit. He also proposed a method for testing hypersensitive areas.

DR. C. K. MILLS thought there were at least three classes of cases resulting from injury: 1, Pure fright; 2, cases in which the indications were clear that fracture or hemorrhage or other serious lesion had taken place; 3, cases in which the symptoms presented were both objective and subjective, with a preponderance of the latter. He thought that the existence of some organic lesion, whether myelitis or the result of hemorrhagic pressure upon some delicate part of the nervous system, would explain many of the symptoms peculiar to this class.

Case of Complete Paraplegia Cured by Trephining.—DR. F. X. DERCUM presented a patient upon whom trephining of the upper dorsal vertebral arches, for paraplegia and complete paralysis of the sphincters, had been performed, resulting in complete recovery.

THE PRESIDENT, in commenting on this unique case, characterized it as almost unprecedented.

DR. PUTNAM said the case seemed to be one of unusual interest, and thought that they must all welcome such advance in the surgery of this region. The speaker reported several cases in which he thought exploratory operation might have been done with benefit.

DR. V. P. GIBNEY said he was extremely delighted with the brilliant results in this case. From the way the patient now held his head he should be inclined to look upon the case as an old Pott's disease. Surgeons had been chary of operations in these cases though the operation was comparatively an easy one, at least simple in detail, and with the aseptic and antiseptic methods of to-day it was practically impossible to have bad results, and recovery was to be expected.

THE PRESIDENT said they would be glad to know to what extent the present position of the head corresponded with the position before the operation.

DR. DERCUM said the position was at that time normal. He considered the present inclination of the head forward as due to loss of certain attachments of the trapezius muscles at their points of insertion into the spinous processes. There might have been a rheumatic element in this case affecting the meninges of the cord.

THE PRESIDENT said he would like to ask Dr. Gibney as to the deformity in which there was extreme bending forward of the neck.

DR. GIBNEY said this condition sometimes obtained to an indefinite extent. It might be a senile kyphosis. Though it would perhaps be urged that Pott's disease at such an age was impossible, yet as a matter of fact there were quite a number in whom it developed after fifty or sixty, following a fall or injury. The position of this man's head might be due to loss of substance of the bodies of the vertebræ.

DR. W. M. BULLARD thought the rapid advance in spinal surgery should lead to more definite conclusions as to the cases of Pott's disease suitable for operation.

DR. B. SACHS said he was gratified to hear the report of such a case as Dr. Dercum had presented. It went to show that many of the cases hitherto operated upon had been badly chosen. When cases could be selected, statistics would probably be more encouraging and favorable.

THE PRESIDENT thought that the theory of rheumatism in this case could not be entirely disposed of.

DR. C. L. DANA said he did not share the optimistic views which Dr. Putnam had advanced, and should be sorry to start a boom in spinal surgery. If the history of all the operations already performed in this field was known he thought they would be disposed to follow the conservative suggestions of Dr. Sachs, and would deal only with selected cases.

DR. GIBNEY said that he did not by any means desire to start a boom in spinal surgery. What he had meant by an easy operation was that in these old cases of Pott's disease the spinous processes were very prominent, and the soft parts were thin and readily got at. Cases should always be very carefully selected.

DR. DERCUM thought that the proper cases were difficult of selection, and it was only now and then that success could be hoped for. He regarded the results in his case as fortuitous.

A Case of Locomotor Ataxia Associated with Nuclear Cranial Nerve Palsies and with Muscular Atrophies.—DR. FREDERICK PETERSON reported the history of the above-named case. The patient had been under the writer's observation since March, 1890, but the features of the case had been previously described by Dr. Seguin, in the *Journal of Nervous and Mental Disease* for May, 1888. It was the first of five cases of ophthalmoplegia reported by that author. As there had been so many new developments in the patient's condition during the past four years it was thought best to briefly outline the history from the first observations made up to the time when he came under the writer's notice. Mr. J. T——, now thirty-seven years of age, had had a chancre and secondary symptoms fifteen years ago. In 1882 he had discovered one morning dimness of vision and external strabismus of the left eye, with diplopia. A little later he had shooting pains in the legs, occasionally in the arms. In 1883 he had a momentary loss of consciousness, and fell, cutting his head. His left testicle also became swollen and hard during this year, and he was under specific treatment at Hot Springs for some time. In 1884 he had partial double ptosis. In the right eye, the internal rectus, inferior oblique, and sphincter iridis were paralyzed, and the superior and inferior recti feeble. The other muscles were normal. In the left eye the muscles supplied by the third nerve acted variably and feebly. The other muscles were normal. Both pupils were completely motionless to light and accommodation, the left larger than the right. Ophthalmological examination resulted as follows: R. V. $= \frac{20}{40} : \frac{20}{40}$ W + $\frac{1}{15}$; L. V. $= \frac{20}{40} : \frac{20}{40}$ W + $\frac{1}{18}$. R. A. $= \frac{1}{16}$; L.A. $= \frac{1}{14}$. There was no lesion of the optic nerves. The left cheek was a little inactive and there was a mild paresis of the right hand. Dynamometer, R. = 42 to 44; L. = 45. No Romberg symptom. Knee-jerks exaggerated. Both feeble and involuntary micturition. In 1885 the ptosis was nearly total on the left, but partial on the right side. In the right eye the condition of the muscles had remained unchanged, while in the left they had improved so much that they acted almost normally. Some paresis and atrophy of both temporal and both masseter muscles was now noted. In 1886, when lost sight of by Dr. Seguin, the ptosis was a little greater, the bladder still paretic, and the masticatory muscles unchanged. No marked facial paresis. The knee-jerks, previously exaggerated, had fallen to about normal. Dr. Seguin, writing in 1888, had said of this case that some of the symptoms seemed to justify a suspicion of incipient "posterior spinal sclerosis."

Since 1886 until the present time there had been gradual progress in the disease, and the present condition of the eyes were as follows: In the right all of the muscles, external and internal, except the rectus externus, were completely paralyzed. The rectus externus was paretic and when moved exhibited clonic spasm. In the left eye there was almost complete ophthalmoplegia externa et interna. Both pupils were widely dilated, equal, and immobile. Divergent squint of right eye. Vision was

unchanged. As far, therefore, as the innervation of the ocular musculature was concerned we had now lesions affecting both third nerves, both fourth nerves, and both sixth nerves. The weakness and atrophy of the masseter and temporal muscles was more pronounced. These muscles did not react to faradism. There was no anæsthesia of the face. The tongue deviated slightly toward the left. The electrical reactions in the face and tongue muscles were normal. There was still some evidence of weakness in the right hand. The patient had now well-marked tabes dorsalis. There was marked ataxia of all four extremities. He could not walk without assistance. The knee-jerks had disappeared. There was numbness, anæsthesia, and analgesia in all of his fingers. In both legs as far as the knees there was almost complete tactile anæsthesia. Muscular sense was entirely lost in both feet. In addition to other symptoms, which pointed out fully developed locomotor ataxia, the patient presented some very interesting trophic disturbances. Besides that of the muscles supplied by the motor branches of the trigemini already described, there was wasting of the right trapezius with a degenerative reaction. In the left upper extremity there was complete paralysis of the two long extensors of the phalanges of the thumb, and atrophy and paresis of the abductor minimi digiti and of all of the interossei and lumbricales, with degenerative reaction. On the right side there was almost complete atrophy of the opponens and abductor pollicis. Considerable wasting was apparent in the adductors of both thighs, more upon the right side. The main features of the case might be summarized as follows: The patient had had a number of bilateral motor cranial palsies, namely, the third, fourth, fifth, and sixth nerves. He had also exhibited slight traces of crossed paralysis for more than four years. Locomotor ataxia had developed, as was shown by the occurrence at one time of lightning pains and by the presence now of ataxia, widely distributed anæsthesias, failure of knee-jerks, and ocular, vesical, and anal symptoms. Finally he presented marked trophic changes in numerous muscles. As to the morbid processes underlying these various manifestations, there was, in the first place, undoubtedly a sclerosis of the posterior columns of the spinal cord. The ophthalmoplegia was of course nuclear. Read in one way the symptoms on the side of the cranial nerves, taken in conjunction with the muscular atrophies and paralyses elsewhere, certainly very closely resembled the syndrome so well described by Dr. Sachs in a paper last year under the title of "Polioencephalitis Superior and Poliomyelitis." The most important matter to be settled in this case was whether the muscular atrophies were due to peripheral or central lesions. Speculation upon the question would seem to be of very little utility, and its solution must be left to the hoped for autopsy. It had been assumed by a number of authors that total paralysis of all of the muscles supplied by the third nerve implied not a nuclear but a nerve-trunk palsy. In the writer's case all of the muscles of both third nerves were totally paralyzed, including both irides, and yet there was every reason to believe that the palsies were nuclear. It would at least be difficult to conceive of a lesion at the base of the brain so widely affecting the trunks of both third, fourth, and sixth nerves, and the motor portions of both trigemini, yet permitting the escape of the sensory portions of the latter.

DR. C. K. MILLS thought that the case might be some peculiar irregular form of syringo-myelia.

DR. E. D. FISHER suggested that the case was one of amyotrophic lateral sclerosis.

DR. SACHS thought the case very closely resembled one of his, in which the diagnosis was polio-encephalitis superior and poliomyelitis, although there were more symptoms of tabes dorsalis than in his case.

DR. PETERSON did not think the case one of syringomyelia, owing to the very symmetrical distribution of the nuclear palsies and because there was no anæsthesia of the upper extremities, face, or trunk.

Multiple Neuritis, or Beri-Beri, among Seamen.—DR. J. J. PUTNAM reported about twenty cases of a disease resembling beri-beri, but possibly another form of multiple neuritis, occurring among fishermen in northern latitudes, and referred to a similar series of cases reported by Dr. F. C. Shattuck in 1881. By correspondence with physicians in the seaport towns Dr. Putnam had ascertained that, besides the larger epidemics, sporadic cases occurred from time to time. One physician had reported frequent cases of swelling and numbness of the hands, attributed to handling fish. The influence of alcohol and the metallic poisons could be excluded, and since the outbreak occurred only now and then the influences to which the seamen were habitually exposed could hardly be considered as the whole cause, though insufficient food had seemed to play a part in some instances. Most of the patients had recovered, but some had died.

DR. GRAY asked if these men carried large quantities of ice, because he had seen neuritis following the handling of ice, which promptly subsided if this cause was removed.

DR. BIRDSALL asked as to the amount of air supplied to the hold of these vessels, and to the seamen's quarters. Cases recently reported to him had led to the impression that the men who had died had been specially exposed to bad air in the hold, while those in good quarters had escaped. He agreed also that cold was an important element in the production of nearly all forms of neuritis.

DR. HUNTER asked whether the men's diet had been of fish.

DR. PUTNAM said that fish had not been the diet, but salt pork, sometimes fresh vegetables and fresh meat. But in one of the worst cases it had been salt pork.

On Cases of Postero-lateral Sclerosis, with Special Reference to the Pathology of the Disease.—DR. JAMES J. PUTNAM referred to a series of eight cases of similar character, presenting the symptoms of "combined sclerosis" of the spinal cord, which he had seen during the last few years, and reported four of them in which he had examined the cord microscopically. All the cases of the series, though differing in some respects, resembled each other as follows: All the patients were past middle life; all were either anæmic or in a state of poor nutrition. The symptoms in all had consisted in both motor and sensory disorders in all four limbs, sometimes associated with incoördination, sometimes not. The knee-jerk was exaggerated in all but two or three; in those it was absent. Tabetic pains were present in one case only. Anatomically sclerosis was found in the posterior and lateral column, varying in exact position. In almost every case the posterior change had seemed the older and most intense. Besides the "typical" sclerosis, there was evidence of a more recent process, characterized by granule-cell formation, and the breaking down of the nerve-tubes so as to form circular or oval spaces. This new process was developed on the borders of the older change. The gray matter of the cord was more or less affected, and the nerve-roots in about the same degree. The cases had all run a rapid course, terminating, after one to four years, in death, preceded by paraplegia, due to non-inflammatory softening. Next to inherent structural weakness, as an etiological factor, came impaired nutrition and toxic influences. The importance was pointed out of recognizing and attempting to meet the partial courses of the disease, of which several might be present at once. As special stigmata of degeneracy in these four cases the writer referred to the mental condition and family history of several of the patients; to the remarkably abnormal shape of the cord in one; the small size of the dorsal gray matter in another, and the presence of a second central canal in a third.

DR. S. G. WEBBER cited the case of a young girl who, from excessive walking, had developed decided symptoms of lateral sclerosis. This patient had gradually recovered the use of her limbs.

DR. PUTNAM, replying to Dr. Dercum, said that there

had been no serious involvement of the internal organs in any of the cases, and no typical Bright's symptoms. These patients were so largely women that he could not but assume the existence of some lesion from impaired nutrition and constitutional taint.

On Ingravescent Apoplexy.—DR. C. L. DANA read a paper with this title. He said that there were three sets of intracranial blood-vessels, those in the dura, those in the pia-mater, and those in the substance of the brain. We had correspondingly three types of intracranial hemorrhage. The central hemorrhages were far the most common, and presented a tolerably uniform clinical type. There was one form, however, which seemed to have escaped critical attention, though it could not be excessively rare. In 1876 Dr. Broadbent had reported six cases of what he had termed "ingravescent apoplexy." In 1889 M. P. Puesch, of Montpellier, had also reported a case of the same character. The writer had met two cases presenting the general clinical characters of ingravescent apoplexy, but was able to make an autopsy upon only one, of which the data was as follows: A woman was brought to the hospital May 1st, without any history. She was in a stupid condition but not unconscious, and she was at first thought to be intoxicated. Examination showed, however, some hemianalgesia of the left side and slight hemiplegia of the same side. The right pupil was slightly contracted, temperature normal, pulse tense. Next day the patient's mind was clearer; she answered questions and recognized those about her. But the hemiplegia was very much worse, and the analgesia no better. Toward night she became more stupid and finally comatose; œdema of the lungs developed. No contracture of the paralyzed side was noted. The temperature rose and the patient died next day, May 3d. At the autopsy the brain was found congested. Pressure over the supramarginal gyrus showed that there was a softened place beneath it. The brain was placed in boroglycerine and alcohol, and opened later by a vertical section. These showed a clot in the lateral ventricle and some blood in the third ventricle. Beneath the supramarginal gyrus was a large hemorrhagic focus about an inch and a half in diameter. This extended forward and downward, cleaving the external capsule. The hemorrhage had finally extended downward and inward, and broken into the lateral ventricle. Puesch had attempted, on the slender basis of seven cases, to erect "ingravescent," or, as he called it, "progressive" apoplexy, into a distinct type. This seemed to the author to be somewhat premature. The history of his case was not exactly like those of Broadbent's in respect to retention of consciousness, and the hemiplegia was relatively less marked. Yet anatomically it was one of the "cleaving" hemorrhages due to rupture of a posterior branch of a lenticular artery, and running the same course as was described by Broadbent. The hemianæsthesia seemed to the author to be a very distinctive point. Practically the question came up as to whether in such cases trephining would be justifiable. In general, the idea of trephining for non-traumatic hemorrhage was not to be entertained at all, but in ingravescent apoplexy it deserved consideration, because here the hemorrhage was accessible, and because, unless some relief was given, it would surely break into the lateral ventricle and kill the patient. In all the reported cases, also, the patients were not old, were not syphilitic, and presumably had not extensively diseased arteries. In reaching hemorrhages in these cases, the best place to trephine would be a little below and in front of the parietal eminence. The surgeon should then explore downward and forward, care being taken not to injure the terminal branches of the Sylvian artery, which were in this neighborhood. In cases of "ingravescent" apoplexy surgical interference, if undertaken, must be before the blood broke into the ventricles. This could be told by the sudden increase in the severity of the symptoms, and if the blood was poured in rapidly by contractures on the paralyzed side. The temperature changes were believed to be the same in the ingravescent as in ordinary apoplexy. The author trusted that the report of his case might excite the interest of others, and call attention to this apparently distinctive and fatal form of cerebral hemorrhage.

DR. MILLS had seen a number of such cases. The result of his experiments as to the best method for operative interference had led him to think that the trephining, if done at all, should be several inches back from the temporal lobe, along the junction of the second and third temporal convulutions. He had known of patients with intraventricular hemorrhage recovering independent of the question of trephining.

DR. W. SINKLER said Dr. Dana had referred to the question of temperature. He had recently had a patient die from enormous hemorrhage into the ventricle and the temperature at death was 108°F.

DR. WEBBER questioned the utility of trephining in these cases in which the history was rupture.

DR. MILLS said the advantage of trephining was that it gave the patients a lease of two or three weeks, as the breaking into the ventricles did not take place until late. By trephining and finding the bleeding-point there was a chance of controlling it.

DR. DANA said that trephining was purely empirical, and he could not say whether it was good or not.

Pons Lesions in their Relation to Associated Eye Movement; Paralysis. — DR. SPITZKA presented this paper by title, accompanied by the demonstration of a specimen of a minute focal lesion of the dorso-caudal part of the pons, unilaterally situated in and near the abducens nidus. In connection therewith Dr. Putnam mentioned one of similar location to Dr. Spitzka's, in that the presumable lesion, for the patient recovered, must have occupied the same position.

A Contribution to the Pathology of Solitary Tubercle of the Spinal Cord.—DR. HEUTER read the above paper. It consisted of a report on the clinical history and pathological anatomy of three hitherto unpublished cases of solitary tubercle of the cord, and of a brief analysis of the clinical and pathological features of the condition based on these cases, and on those which had been collected from the literature on the subject. It was believed that the clinical history of solitary tubercle of the cord could be more accurately written than heretofore with the help of the facts that had been recorded in the given cases. The uniformity of the symptoms in different cases, especially as regards their course, the rapidity with which the usually unilateral symptoms became bilateral, the comparative insignificance of the irritative phenomena, and the frequency with which the signs of tubercular disease in other organs existed, were characters of solitary tubercle of the cord which might help in this distinction, both from tumor of the membranes and from other varieties of tumor of the cord.

DR. SACHS said it was some years since his paper on this subject was written. At that time he had thought that the very slow development, the strictly unilateral symptoms and subsequent spread of the disease, involving both halves, would constitute a basis for diagnosis of tumor of the cord. Now the point came up with regard to the possibility of distinguishing between extra- and intradural tumors.

Demonstration of Some Special Anatomical Characteristics in the Brain of a Distinguished Scientist.—DR. B. J. WILDER presented the brain of the late Mr. Chauncey Wright, and demonstrated to the Association what he deemed striking anatomical points. One peculiarity specially dwelt upon was the existence of a very simple insula instead of a complex one. Then the inhibition of the fissure of Rolando by an isthmus was so rare as to call for attention. Then, in contradistinction to the condition in other brains, it would be seen that the central fissure above that point was shallow. The speaker urged his hearers to aid in every way possible the further

investigation of comparative anatomical study in this field. To successfully effect this, it was necessary to secure young human and apes' brains in every stage of development.

Tumor of the Quadrigeminal Region, with Special Reference to Ocular Symptoms.—Dr. B. Sachs read a paper with this title. He had been fortunate enough to obtain two autopsies, during the past year, which bore upon this question, and also several cases which were subjected to careful clinical examination. His first case was one of unusually severe tuberculosis cerebri. The main points of the history, which he had been able to complete through the kindness of several colleagues, were these: E. L——, aged three years. When first seen she had double ptosis, but no other ocular paralysis was observed. She was dull and listless, and had a pulse that ranged from 145 to 160, but with normal temperature. The mother had noticed a change in the child's disposition since an attack of measles nine months previously. The child did not care to play, but preferred to sit quietly in a chair all day long. She staggered in walking and occasionally fell. She had no epileptic attacks, and had vomited but once. Knee-jerk was absent. The right hand was weaker than the left. No anæsthesia or ataxia. There was paresis of both levator palpebrarum, the pupils being half covered. No nystagmus. Pupils were equal, moderately dilated, and reacted well to light and accommodation. December 28, 1889, the patient had come under Dr. Sachs' care. The condition at that time showed great changes. Examination disclosed double and almost complete ptosis. There was no upward or downward movement of either eye. Both external recti muscles were thrown into clonic spastic condition when the attempt was made to use them. The interni were capable of very slight movement, but all the other ocular muscles were completely paralyzed. The accommodative reflexes were still distinct, and there was slight contractility to light. There was also slight left facial paresis. The vision was very much impaired. Although in a semi-stupor, the child could be made to walk, and then exhibited most distinct cerebellar staggering, walking with a broad base, and almost falling to the right side. The oculist reported plaques of choroidal atrophy below the macula of left eye. The reflexes were exaggerated and there was occipital headache. The diagnosis of tumor of the corpora quadrigemina was given. The tumor was supposed to be associated with a general tubercular meningitis. The child grew rapidly worse, and after passing through several convulsive seizures, becoming blind, and finally developing left hemiplegia, she died February 4, 1889. Autopsy showed the dura adherent to the skull and it had to be removed with the calvarium. The quantity of the sub-dural fluid was slightly increased. A solitary tubercle was at once discovered near the right lateral sinus, pressing into the lateral edge of the cerebellum and producing thrombosis of the lateral sinus. Other tubercles with large areas of softened tissue were found in the cerebellum. Deep examination of the brain showed the hemispheres to be healthy, with the exception of the small tubercular deposits along the paths of the blood-vessels. The cerebellum was the seat of the most profound changes. The base presented several unusual conditions. There was great thickening of the pia, with small tubercular deposits between the corpora mamillaria and optic chiasm, and in the interpeduncular space. The thickening at this point was so great that both third nerves, instead of lying across the crura, after removal of the brain, pointed backward, and the right, the sixth, was twisted out of its position. Section of the brain showed the tumor to occupy almost the centre of the tegmental division of the crus and had left a very small portion of the corpora quadrigemina and the brachi intact. The occipital headaches and the cerebellar staggering were the only symptoms which could be ascribed to the large tubercles in the cerebellum, though both these symptoms might be due to the lesion of the quadrigemina region. It was probable that the sixth and seventh nerve nuclei were responsible for the symptoms pointing to lesions of those nerves, or that the basilar meningitis was at fault. Certain it was that the latter condition was late in developing, for, for months, the symptoms had been distinctly nuclear. In spite of the manifold morbid conditions, it was most remarkable that the ciliary muscles and the sphincter irides had remained exempt during the entire period of observation. Considering the compactness of all cerebral structures in the crura, it would be supposed that there could be no difficulty in making a differential diagnosis between cases of tumor in this region and a chronic inflammatory process.

Crus Lesion.—This was the title of a second paper by Dr. Sachs. Crus lesions were rarer than many other cerebral lesions but their symptoms were well-marked. The case under consideration had some special interest, however, in connection with post-hemiplegic disturbances of motion, and from this point of view the results of the post-mortem examination were worthy of consideration. Seven years ago the patient, a woman about fifty years of age, had had a dizzy attack one morning, and had found her vision rather blurred. There was a recurrence of the attack in fifteen minutes. There was no unconsciousness nor difficulty with speech, but when the patient attempted to walk she found she could not with ease. By morning she had almost complete left hemiplegia, she could not open either eye. At that time speech was heavy and indistinct, but from this she had recovered in three weeks. Hearing, taste, and smell were altogether normal. The hemiplegia was never recovered from, the patient became somewhat unruly and demented, and was finally taken to the Montefiore Home, where she had remained for many years. A few further details of the patient's chronic condition were elicited in examination. There had been no history of syphilis, but there was very marked atheroma of the peripheral arteries. In addition to the left hemiplegia, the patient had suffered amputation of the right leg above the ankle, for old necrosis of the tibia, fully six years before. There was rigidity of the left leg, and increased knee-jerks of both sides. The wrist reflex was decidedly increased on the paralyzed side, but the left upper extremity was subject to the wildest ataxic movements. This would go on until the arm dropped from exhaustion, when it would remain quiet until aroused again by an effort to use the hand. She became extremely emotional, took very little nourishment, and finally died. The diagnosis of crus lesion of the right side, probably softening from thrombosis, was made, and confirmed by the autopsy.

On the Germ of a Communicable Disease Derived from a Dog, Alleged to have Died of Rabies, which Retains Rabic Characters.—Dr. Richard Mollenhauer exhibited some microscopic specimens, taken from a dog which he had succeeded in rendering rabid by inoculation. The germ was a bacillus whose various growth-stages presented a uniform type. In its adult period it was usually found in chains typically made up of four, rarely of three, somewhat more frequently of two, and exceptionally of five links.

Case of Insular Sclerosis in which an Attack of Cerebral Hemorrhage Arrested the Tremor on the Hemiplegic Side.—Dr. Wharton Sinkler related the history of this case. The patient, a man, aged sixty-seven years, had always enjoyed good health until about ten years ago, when he began to notice tremor in both hands, but worse in the left. In 1889 he had experienced an attack of left hemiplegia, without loss of consciousness. Since that attack there had been no tremor on the left side, but a coarse tremor on the right side still persisted. The patient's appetite and general health had remained good, the hemiplegia continued about the same, with no further involvement of the tremor.

Remarks on Therapeutics as Applied to Nervous Disorders.—Dr. W. R. Birdsall read a paper with this title. While admitting that many of the diseases which the

neurologist was called upon to investigate were practically incurable, the author maintained that those who saw no advance in the therapeutics of nervous diseases were probably looking in the wrong direction for progress, the advance being in great part the outcome of those very investigations considered by many as unpractical scientific refinements. The early diagnosis of disease he regarded as the most important factor for therapeutic success in diseases of the nervous system, as it frequently enabled the physician to check the course of a disease where marked disability had not yet resulted. Hygienic measures were considered of prime importance and pharmaceutical remedies as valuable accessories in the treatment of these diseases. All relation between storage and expenditure must be readjusted to the disturbance in equilibrium, and the aim of therapeutics consisted in bringing about such a readjustment. The modern craze for so-called physical culture, the author believed, was bringing forth dangers as great as those it was sought to remedy, through over-training, improper training, training for brain-workers which fatigued rather than rested the brain, together with other faulty methods. Hydrotherapy, he considered, was much neglected, and electrotherapy overestimated. Next to hygiene, cutaneous irritation was decidedly the most important therapeutic measure possessed by the neurologist. Surgical interference and the drugs usually employed by the neurologist were then briefly referred to.

DR. W. SINKLER believed in the use of drugs in nervous disorders. No doubt arsenic in chorea, hyoscyamine or hyoscine in various tremors, the iodides and antisyphilitic remedies in specific diseases of the nervous system, were all of value. He wished to put himself on record as not being a pessimist or nihilist.

DR. BRUSH said he wanted to accentuate what Dr. Birdsall had said as to the management of cases of nervous diseases. A great many could be better treated by other means than drugs. He should some day present some cases of insanity from drug poisoning. Once he used to try everything that came along, but now he made less and less use of drugs.

DR. L. C. GRAY said he was a believer in the efficacy of properly directed therapeutic measures in combination with everything else in the treatment of nervous disorders—chorea in all its minor forms, neuralgias, functional nervous disorders, subacute or acute mental troubles, except acute mania.

The Pathological Findings in Dr. W. A. Hammond's Case of Athetosis.—DR. G. M. HAMMOND read a report on the pathological findings in the original case of athetosis on which Dr. W. A. Hammond's description of athetosis was based. After briefly referring to the case in detail Dr. G. M. Hammond stated that the portion involved in the lesion was a lengthy one in the antero-posterior direction, parallel in its short axis with the internal capsule. Its posterior end had invaded the stratum zonale of the thalamus in its posterior half of the internal capsule. In its anterior extension it had crossed the capsule invading the posterior third of the outer articulus. The author called attention to the fact that the motor tract was not implicated in the lesion, and argued that this case was further evidence of his theory, that athetosis was caused by irritation of the thalamus, the striatum, or the cortex, and not by a lesion of the motor tract.

DR. E. C. SPITZKA, reported a case in which the lesion was found to be in the same situation, as in Dr. Hammond's case.

DR. E. C. SEGUIN presented a paper on atheto-choreic spasm of the right side of the body. The post-mortem had shown a glioma of the left thalamus opticus and adjacent internal capsule. Dr. Seguin's views were that all cases of athetoid and choreiform movements following hemiplegia were due to lesions involving the thalamus and adjacent capsule.

The officers elected for the ensuing year were: *President*, Dr. Wharton Sinkler, of Philadelphia; *Vice-Presidents*, Dr. C. L. Dana, of New York, and Dr. S. G. Webber, of Boston; *Secretary and Treasurer*, Dr. G. M. Hammond, of New York; *Councillors*, Dr. G. L. Walton, of Boston, and Dr. L. C. Gray, of New York.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE CHEMISTRY OF GOUT—THE PUBLIC HEALTH DIPLOMAS OF THE UNIVERSITY OF GLASGOW—THE PROPOSED RECONSTITUTION OF THE UNIVERSITY OF LONDON.

LONDON, June 14, 1890.

AT the last meeting of the Medical and Chirurgical Society an important contribution to our knowledge of the chemical changes occurring in the tissues of gouty persons was brought before the Society by Sir William Roberts, in the form of a very elaborate paper on the subject. In bringing forward the subject Sir William Roberts referred to a recent paper of his, in which he had shown that in the physiological state uric acid existed in the blood and urine exclusively as quadrurates, and that when it appeared in any other form this was due to abnormal changes in the quadrurates. In that paper he had traced the changes which the quadrurate underwent in urine—changes leading up to the separation of free uric acid in gravel. In the present paper he proceeded to consider the changes which the quadrurate underwent in the blood—changes leading up to the deposition of free uric acid in gout. These latter changes were intimately connected with the property possessed by the quadrurates of taking up in alkaline solutions an additional atom of base—thereby becoming converted into biurates. A knowledge of this reaction enabled us to present a coherent view of the succession of events which culminated in a gouty paroxysm. Normally, the uric acid, which circulated in in the blood as quadrurate, was at once removed unchanged by the kidneys. But in the gouty state—either from defective kidney action or from some other cause—the quadrurate lingered unduly in the blood; circulating then in a medium rich in sodium carbonate, it was gradually transformed into sodium biurate, which was almost insoluble in blood-serum and probably, for this reason, was difficult of removal by the kidneys. Under these new conditions sodium biurate accumulated more and more in the blood and, when the accumulation reached a certain point, was precipitated in the crystalline form in the joints and elsewhere, thereby determining the occurrence of a fit of the gout. Sir William Roberts said he based this view upon a study of the reactions of blood-serum and synovia with uric acid and the urates. In the case of blood-serum these depended essentially on the saline ingredients; the sodium salts exceeded all the other salts put together in the ratio of 7 to 1, and a solution of 0.5 per cent. of sodium chloride and 0.2 per cent. of sodium carbonate was a fairly exact imitation of blood-serum so far as concerned its saline ingredients. Experimentally, it was found that such a solution behaved with uric acid and the urates in the same manner as blood-serum itself, and in the same manner as a solution composed of all the salines of the serum in their due proportion. The behavior of uric acid and the urates with this "standard solution" was then studied in detail and the results checked, by comparing them with those obtained with blood-serum under similar circumstances. The author found that sodium biurate dissolved in water at 100° F. in the proportion of 1 in 1,100, but that it was almost insoluble in the standard solution and in blood-serum, and no addition of potassium, lithium, or magnesium salts—whether alkaline or neutral—made the slightest difference. The solvent power of the standard solution was found to depend exclusively on the sum of sodium salts contained in it, and the degree of alkalescence had not the least influence; the nearer the standard

solution approached to pure water, the higher became its power of dissolving sodium biurate, and *vice versa*. The solubility of gouty deposits was tested by suspending gouty articulations, encrusted with uratic deposits, in a large volume of blood-serum; the deposits remained unchanged even after immersion for many months. Uric acid, itself, dissolved freely (as a quadrurate) in the standard solution —and also both in blood-serum and synovia—but after an interval of a few hours or a few days it was again precipitated, often somewhat suddenly, in the form of crystalline needles of sodium biurate exactly resembling those found in gouty deposits. The author held that this reaction was analogous to the phenomena of the gouty paroxysm. In gout, he considered that the blood became increasingly charged with uric acid, until, after a certain period of incubation, sudden precipitation of sodium biurate occurred and the "fit" of gout took place; then followed a process of recovery with restoration of the blood to a purer state. In the experimental process a similar succession of events was observed: solution of uric acid in the medium as quadrurate; gradual conversion of quadrurate into biurate (stage of maturation); deposit of the biurate in the crystalline form (stage of precipitation); restoration of the medium to comparative purity. With regard to the conditions which hastened or retarded the processes which culminated in the precipitation of sodium biurate, the following results were arrived at: 1. Precipitation occurred earlier in synovia than in blood-serum. 2. Increased alkalescence of the media favored the stage of solution, but did not retard the stages of maturation and precipitation. 3. The addition of sodium salts hastened maturation and precipitation. 4. The addition of potassium, lithium, or magnesium salts had no effect either way—except potassium chloride, which retarded maturation. 5. Maturation was hastened and precipitation occurred earlier at 100° F. than at the temperature of the room. 6. The proportion of uric acid in solution was the circumstance which exercised the most decisive influence on the speed of maturation, and on the time of advent and copiousness of precipitation. If the proportion of uric acid in solution were 1 in 2,500 or over, there was observed in the middle period of maturation, on the second or third day, a copious critical precipitation; but if the proportion were 1 in 4,000 or under, the precipitation was throughout scanty and gradual, and postponed to the twelfth or fourteenth day. Dr. George Harley remarked that when Sir Alfred Garrod proved that gout was due to the existence of uric acid in the system, a distinct advance in our knowledge was made. A further advance was made when it was shown that an acute attack of gout was due to the deposition of uric acid in the articular cartilages. Later on, it was shown that the deposits were not due to inflammation of the joints, but that the deposits caused the inflammation around the joints which was known as gout. Sir William Roberts' present paper was a contribution to the chemistry of gout, and Dr. Harley urged that, through chemistry, a new pathology would be founded in which all morbid changes would be proved to be due to chemical action. Dr. Haig observed that Sir William Roberts's paper afforded a chemical explanation which he had long wanted. He had found that alkalies increased the excretion of uric acid, and Sir William Roberts had shown that increased alkalescence favored the state of solution of uric acid. Similarly, acids lessened the amount of uric acid excreted. Sir William Roberts then replied, and remarked that he had confined himself to certain chemical results, and had drawn no conclusion as to the profounder theories of gout. There was something in gout beyond the chemistry of the urates; it was, in essence, a mode of nutrition associated with an error, which was uric acid. There was a colloidal form of uric acid, as well as the crystalline form, and the action of the two forms also differed. He believed that if an attack were imminent, a patient ought not to take mineral waters containing soda and lime, except very sparingly at first. Dr. Herman Weber had, for many years, warned his patients on this point. Sir William Roberts said he thought it possible that most of the good done at mineral springs was due to the water taken, and not to the salts it contained.

At the recent session of the General Medical Council one of the burning questions discussed was, as to certain diplomas in public health issued by the University of Glasgow. It appears that the diplomas in question were granted after a very superficial examination, and the Council considered that sufficient proof of knowledge of the subject had not been evinced by the candidates. Ultimately it was decided to refer the documents relating to the matter to the Council of the University of Glasgow, and in the meantime to register no more of the diplomas issued after such an insufficient examination.

The question of the reconstitution of the University of London still lags. The Senate is really between two fires. On the one hand they have to deal with the various and conflicting claims of the various teaching bodies, and also those of the medical examining boards (*i.e.*, the colleges of physicians and surgeons); on the other hand, they must satisfy their own graduates, for Convocation can veto any scheme, though it is powerless otherwise in the present matter. The real point at issue is, whether the standard of the examinations shall be reduced. If it is not, it is difficult to see how the medical schools can be satisfied; if the standard is reduced, the present graduates will be sure to object, and perhaps veto the scheme. In the latter case, a second (teaching) university is almost certain to be established in London, and this is perhaps the only argument which will induce the present graduates to consent to such sweeping reforms as those contemplated.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 29 to July 5, 1890.

KEEFER, FRANK R., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort Leavenworth, Kan. Par. 6, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

RAYMOND, THOMAS U., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort Sherman, Idaho. Par. 6, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

SNYDER, HENRY D., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort Reno, Indian Terr. Par. 6, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

SMITH, ALLEN M., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort Snelling, Minn. Par. 6, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

HEYL, ASHTON B., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort Niobrara, Neb. Par. 6, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

CLARKE, JOSEPH T., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, will report in person for duty to the commanding officer at Fort Riley, Kan. Par. 6, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

CORBUSIER, WILLIAM H., Captain and Assistant Surgeon. Relieved from duty at Fort Lewis, Col., and will report in person to the commanding officer at Fort Wayne, Mich., for duty. Par. 7, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 3.
Whole No. 1028.

New York, July 19, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

GARGLING: ITS PROPER METHOD AND SPHERE OF USEFULNESS.

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When it was that man discovered the art of gargling, or by what means he came to develop this peculiar process, neither history nor tradition gives us any clue. Suffice it to say, that from the remotest times man has known what "to gargle" meant, as is evidenced by the existence of words signifying the act, usually euphoniously, in so many of the ancient languages. Naturally, the acute observation of the first physicians did not overlook this method of applying remedies to disease, and so the first records of medical practice contain abundant references to gargles as being used in the treatment of the sick. Experience led these observers to believe the gargle to be of value, and they all refer to the act as something known by everyone, giving no direction as to the method of its performance. In this, however, they were not far behind their representative brethren many centuries later, as a glance through literature will convince anyone. Even to-day a large number of authors consider gargling as of so little importance, or rather as so thoroughly well understood by everyone, as to need no further comment than merely to mention the name.

The Greek and Roman physician distinguished between mouth-washes, collutions, and gargles, gagarismata, a difference to which we of to-day still adhere.

The practitioner of later centuries prescribed both forms of "washes" in great abundance, and our forefathers, in the days of influenza and of bleeding, did not forget nauseating mixtures with which they helped their patients to recovery. With the introduction and general use of the laryngoscope a more exact method of diagnosis led to a reaction against gargles, as being too diffuse in their effect upon parts within the throat, and they have been largely superseded by the spray, pencil, and insufflation, not forgetting the douche or syringe, until now many an author doubts whether gargles are really entitled to even a meagre consideration as of therapeutic value. But all authors are not agreed in this neglect of gargles, and believe there is yet a field of usefulness open to them. Let us for a moment contrast some of the modern ideas.

Take, for example, Morell Mackenzie,[1] in his exceedingly valuable treatise, who says: "The use of gargles is too well known to require any explanation, but the author has never found them to be of service in diseases situated behind the anterior pillars of the fauces. Their employment is especially indicated in chronic affections, the tension necessary for the execution of gargling being often injurious in cases of acute inflammation."

Prosser James[2] claims something more for the fluids in question and approaches, in his remarks upon the act of gargling, very nearly to the method which the writer will later advocate. He says that the act will vary largely with the individual. "Accordingly we find some persons never learn to gargle properly, while others achieve what at first seems impossible. The majority of patients, in point of fact, require some instruction respecting the end to be attained. In using the mouth-wash the velum and uvula descend so as to cut off all communication with the pharynx. In gargling, as frequently understood, the result may be almost the same, the liquid coming in contact with the anterior surface of the velum and uvula only. If, however, the patient should now raise the velum, as many can do, some of the liquid will flow into the pharynx. There it produces a desire to swallow, and unless the patient can control this, some of it will pass into the œsophagus and stomach. Some persons, however, instead of yielding to the desire to swallow, suddenly jerk the head forward, and a quick, forcible expiration taking place at the same moment, the liquid is expelled through the nose. What they do involuntarily can be accomplished by others deliberately and without inconvenience." Both this author and Lennox Browne[3] quote the method of Guinier for "laryngeal gargling." Browne is quite as much in favor of gargles as is James and quotes the von Troeltsch method at length.

Among the German writers opinions are advanced which are also very much at variance; the majority of those to whom I have had access, however, have chimed in more or less with von Troeltsch,[4] who is very unsparing in his recommendation of the "swallowing movements," especially in chronic catarrhal affections of the pharynx and naso-pharynx. In favor of gargling he says, speaking of the treatment of chronic aural catarrh: "Great influence is exerted upon the mucous membrane of the pharynx by frequent gargling, both when executed with simple cold water or weak salt solution, and when the complicated mixtures are used. Of these latter, such as contain alum or iodine are especially good for the purpose in view." Referring to the use of iodine as a gargle, he makes the observation: "Iodine as a gargarism has more than a simple local influence; I have frequently seen goitre grow much smaller, as also women who speak of a diminution in their bodily size or of a mild atrophy of the breasts. In a like manner, iodine gargarisms appear to have an influence toward resorption in the ear." And further, he says of opium, in a gargle, that it has often a decidedly soothing influence upon neighboring parts. After some extended remarks as to the rationale of the gargle as carried out by himself, he states: "Regular, energetic gargling, even with simple cold water or weak salt solution, is, therefore, of very marked value in cases of chronic pharyngitis, not only that thereby every retention of secretions is avoided and normal removal of the same evidently favored, but also that a certain amount of gymnastics of the pharyngeal muscles is sure to take place." He places most of the good effects of his method of gargling on the basis of a mechanical or gymnastic influence, supporting his propositions by the following statement of facts: "I can assure you that this is no mere theoretical speculation, but that I have surely seen good results, often with difficulty to be accounted for, come from simply gargling with cold water, when the latter has been done in the right way several times daily, using at each time at least one-half pint of fluid." Following in his footsteps many German writers, as Fränkel,[5] Vogel,[6] Wagner,[7]

[1] Diseases of the Larynx, etc., p. 422. New York, 1880.
[2] Therapeutics of Respiratory Passages, p. 298. New York, 1884.
[3] Throat and its Diseases, p. 99. Philadelphia, 1887.
[4] Lehrb. d. Ohrenheilkunde, p. 395. Leipsic, 1881.
[5] Fränkel, B.: Therap. d. Krankh. d. Nase, etc., in Ziemssen's Handb., iv. Bd., p. 97, 1. Abth. Leipsic, 1879.
[6] Vogel, A.: Krankheiten d. Lippen u. Mundhöhle, in Ziemssen's Handb., vii. Bd., p. 33, 1. Abth. Leipsic, 1878.
[7] Wagner, E.: Krankh. d. weich. Gaumens, in Ziemssen's Handb., vii. Bd., p. 134, 1 Abth. Leipsic, 1878.

Wendt,[8] Ewald,[9] von Ziemssen,[10] and Schwartz,[11] are favorable to gargling, giving it attention some more, some less; a few, as Strümpell,[12] Tobold,[13] and Rühle,[14] positively affirm that gargles are useless, except in cases of trouble anterior to the pharynx. But of all, Hagen[15] seems to be the most enthusiastic for the general use of gargles, and most successful in his method, which later will be given *in extenso*.

Of French authors the writer has not much to state, but only in Trousseau[16] did he find any marked favor toward gargles.[17] Here frequent mention was made of the use of gargles in throat affections, but of methods or the scope of the gargle not a word was found.

In turning our attention to American writings, we shall not find our authors any more at unity as regards the value placed upon gargarisms than has been our experience with foreign observers. Still there seems to be a greater tendency toward their use, and few are the authors who do not make some mention of them. Perhaps the spirit of many will be stated in no better way than to quote from Laurence Johnson.[18] "Some prominent laryngologists restrict the use of gargles entirely to affections of a chronic character and situated not farther back than the anterior pillars of the fauces, holding that the pain induced by their employment in acute affections more than counterbalances any benefit derived. It seems to me, however, that the restriction is quite too stringent. We must take patients as we find them and prescribe remedies, often because of their availability rather than that they are best. Comparatively few patients are so situated as to admit of all the care required to produce the best results of treatment. Of those suffering from the lighter forms of throat affections, whether acute or chronic, this remark is especially true, and in such cases gargles will continue to be prescribed and used, even though more exact and efficient methods might yield better results. And regarding their rejection in acute and painful affections of a graver character, such as tonsillitis, diphtheria, and the sore throat of scarlet fever, notwithstanding the dictum of high authority, I believe that a large body of the profession, confirmed in their opinion by the results of their experience and observation, will continue to employ them, and, I think, too, with satisfaction to themselves and benefit to their patients."

While many will be willing to coincide in the above remarks, others of equal probity either mention gargles not at all, or put them down as not getting deep enough into the throat to be of any value. Mention may be made in this connection of Flint,[19] Seiler,[20] Buck,[21] and Solis-Cohen,[22] as a few notable examples. Which are to be believed?

Becoming interested in studying these differences of opinion the writer searched back among the older authors for their records, and the result was, that much which was novel was found, which latter he begs to bring in brief to your notice.

Beginning with the oft-quoted sage, Hippocrates,[23] we find him recommending in quinsy, hot water as a gargle, and using it freely to lessen the inflammation and promote absorption. He does not limit himself, however, to simple water, giving the following as of value: A decoction of wild marjory, savory, parsley, mint, a little alkali (nitrum), and honey-water, to which a little vinegar is added. Of exact quantities, or of the method of preparation he does not speak, stating only that it should be used warm.

Aretæus,[24] also a Greek, refers to gargles in ulcerative angina, and makes a distinction between collutions and gargarisms. He recommends the use of astringents and demulcents for the healing of the ulcers in the throat.

Celsus,[25] who was a wonderfully acute observer and systematic writer, divides gargles into such as are soothing, astringent, and stimulating. He advises their use in quinsy, simple tonsillitis, ulcerations after quinsy, and diseases of the ear, quite astonishing us by particularly recommending gargarisms in cases of tinnitus aurium. As v. Troeltsch says, this is the more remarkable, "as it is by no means certain whether he knew anything about the Eustachian tube, which was surely noticed before his time." Celsus makes no attempt at explanation of the rationale of the working of gargles, but simply recommends them under "Curatio Sonitus Aurium," as a heading.

Dioscorides,[26] was quite favorably disposed toward gargarisms, and recommended them extensively in all affections of the mouth and throat, distinguishing between collutions and gargarizations. He speaks at length of a large number of waters and decoctions, which he classed under the two heads of demulcents and astringents.

But of all the more ancient writers, the great commentator, Galen,[27] is perhaps the most generous in his mention of gargles, giving them an extensive notice in the discussion of medicines best employed in diseases of the mouth and throat, to which class of remedies he gives the general name of "stomatica." These latter were electuaries, powders, or fluids, a distinction being made between mouth-washes and gargles. He gives a large number of compound prescriptions for the various mixtures, being himself strongly in favor of mulberry juice, unchanged in acute, mild inflammations, but to be increased in effectiveness by the addition of many and varied astringents or stimulants, mostly fruits or herbs, when the inflammation took a severer form. In this last use of gargles he voices the opinion of other authors whom he quotes at length, giving their favorite prescriptions. Heras, Andromoclias, Creto, Aristocles, Antipator, Harpocras, Asclepiades, Hippocrates, Archigenes, Heraclides, and Apollonius. From this array of names it will be very evident that at that time, and before, gargles were held in high repute and much used. Not a few of these names he quotes in connection with the use of warm gargles in angina.

In his observations on the nature and use of matters—animal, vegetable, and mineral—Pliny,[28] the naturalist, speaks of many substances and mixtures as being used as gargles, viz., decoctions of wild cabbage and supplejack (vitis pampinorum), and sheep's milk. For spitting of blood, to be used only as a gargle, care being taken that none of it be swallowed, he speaks of the following mixture: Salt, thyme, vinegar, and honey, proportions not stated. Another recipe is multipedes, pigeon excreta, with raisin wine.

Copying from the earlier Greek and Latin writers we find in the Sanscrit Ayurvèda of Susrutas[29] and in the Arabian of Avicenna[30] ample reference to gargles. The former speaks of sternutatoria or snuffs, ecligmata, or

[8] Wendt, H.: Krankh. d. Nasenrachenhöhle, etc., in Ziemssen's Handb., vii. Bd., p. 259, 1. Abth. Leipsic, 1878.
[9] Ewald, C. A.: Handb. d. Arzneiverordnungslehre, p. 94. Berlin, 1883
[10] Handb., iv. Bd, p. 272, 1. Abth. Leipsic, 1879.
[11] Schwartz, H.: Lehrb. d. chir. Krankh. d. Ohres, p. 148. Stuttgart, 1885.
[12] Strümpell, A.: Speci. Pathol. u Therap., p. 493. Leipsic, 1883.
[13] Tobold, A.: Chronic Diseases of the Larynx, p. 101. Translated. New York, 1868.
[14] Rühle, H.: Diseases of the Pharynx, vol. i., p. 459. New Sydenham Society, London. 1876.
[15] Hagen, R.: Das Ohr. u. seine Pflege, p. 119. Leipsic, 1883.
[16] Trousseau, A.: Lectures on Clinical Medicine, vol. ii., p. 444. New Sydenham Society, London, 1869.
[17] Ibid., A.: Treatise on Therapeutics, vol. i., p. 96. Translated. New York, 1880.
[18] Reference Handbook of the Medical Sciences. New York, 1886.
[19] Flint, Austin: Principles and Practice of Medicine, p. 454. Philadelphia, 1881.
[20] Seiler, C.: Diseases of the Throat, Nose, etc., p. 234. Philadelphia, 1889.
[21] Buck, A. H.: Ear Diseases, p. 165. New York, 1880.
[22] Solis-Cohen, J.: Diseases of the Throat, p. 171. New York, 1872.
[23] De Morbis, Kuhn's Medico-Græc. Oper., Lib. ii., p. 237. Leipsic, 1826.
[24] De Curat. Acut. Morb., Kühn's Medico-Græc. Oper., Lib. i., Capit. vii.–viii. Leipsic, 1826.
[25] De re medica, Lib. v., 22; Lib. vi., 8.
[26] De mat. med., Kühn's Lib. xxii.; Lib. primus.
[27] De comp. med., Kühn's Lib.-vi.
[28] Naturgeschichte, Bd. xx., 36, xxii., 15; xxxii., 14. Stuttgart, 1856.
[29] Ayurvédas, p. 208 (Translated by F. Hessler). Erlangen, 1845.
[30] Heilmittel der Araber, p. 240. Freiburg, 1845.

electuaries, and gargarisms, giving a number of pleasant prescriptions. As a gargarism sesame seeds, blue lily, mustard seed, sugar-cane, and milk with honey are the ingredients of an infusion intended for "a feverish mouth, to drive away the heat." Avicenna quotes very largely from Galen, and gives a number of "recipes" for throat disease. One which Galen, and others after him, recommended very highly was used as an electuary in throat troubles, but when the patients were affected with bronchitis then some of the electuary was dissolved in asses' milk and gargled. The electuary is very aromatic: Spikenard, cardamom, malabathrum (both the Indian and the mixed), sweet-flag, cinnamon (two varieties), myrrh, costus and liquorice-root, mandrake juice, and saffron; other details are omitted.

To judge from Camerarius,[31] who gives us what was known in medicine from the eighth to the twelfth centuries, considering each century by itself, one would conclude that but little was thought of gargles in that time. He refers at length to the use of vinegar in catarrh and bleeding, and discharge from the nose, the vapors of the heated liquid being referred to as markedly stimulating, but not a word about gargling or the use of collutions until, when speaking of the twelfth century, he remarks that those persons who cannot take any alcoholic stimulants on account of the disease with which they are afflicted, would receive great gratification by holding some wine in the mouth. Later writers refer to gargles as used at this time, and it is probable the author quoted did not deem them of enough importance to make mention of them.

In the sixteenth century we have a variety of works which give us the state of medicine in these and previous times. Some of the writers, as also in the next century, are very explicit about the descriptions of the disease and the various symptoms, but, like Hippocrates, they say little about the treatment. We therefore find Brunfels[32] and Cassius Iatros[33] not mentioning gargles, while in contrast Girolamo,[34] Fernellius,[35] and Mathiolus[36] speak often of them. Girolamo in "Morbus Gallici" gives a very much used gargarism made from a decoction of privet (ligustrum), plantain, and cytinus, a parasitic plant, into which alum, dregs of vinegar, soda, and armenian bole are placed. This was to be used when there were ulcerations. Mathiolus, who quotes largely from Dioscorides, and Fernellius, who is very explicit in what he has to say, were both inclined toward complicated formulæ. For example the latter gives: ℞. Roots of marsh mallow and beets, ℥ i.; whole barley, liquorice, and dried grapes, ℥ ss.; cook in one pound of honey-water. In this let pillitory and sow-bread (cyclamium) of the powdered root, grs. xl., be placed. Express the liquid and use as a gargle. Montanus[37] makes the curious observation in connection with using gargles in cases of catarrh with bloody sputa that he abstains from them, as they are to be looked upon as causing "a descent of matters (discharge?), for they loosen a great quantity of it." He then speaks of electuaries to be used in order to have the catarrh discharge through the mouth, lest it descend upon the breast. He writes very extensively about catarrh, much more so than any of his contemporaries, and yet the writer failed to find any other reference to gargarisms.

The following century was prolific in writers who limited themselves to the consideration of diseases, and did not tell us much about their therapy. Many, as Bellini, Baglivus, Cardamo, Diemerbeck, Fuchsius, Helmont, Heurnus, Willis, Zacuto, speak of head and throat diseases, but persistently refuse to pay attention to the therapy.

[31] Camerarius, J. R.: Memorabil. Med. Centur., viii.-xii., Lib. xii., 99. Silberdina, 1627.
[32] Brunfels, Otho: Theses totius rei medicæ. Agentorata, 1532.
[33] Natur. et medicin. quæstiones. Figuri (Helv.). 1562.
[34] Girolamo, F.: De contagionum, p. 549. Lugduni, 1550.
[35] Univer. med., Lib. v., p. 123. Francofurti, 1592.
[36] Opera Omnia med., p. 225. Basilæ, 1598.
[37] Montanus, J. B.: Consultation. Medicinal. centuria prima, p. 122. Venetiis, 1556.

Paracelsus[38] speaks of using gargles when collutions would be a better word, for he is recommending them in diseases of the mouth. Riolanus[39] devotes considerable attention to diseases of the mouth, soft palate, tongue, and tonsils, and discusses catarrh in general quite at length, recommending many gargarisms. Sennert,[40] Rivière,[41] Stalpart,[42] Bonetus,[43] Morton,[44] and Chesneau,[45] all refer to the use of gargles, mostly of the demulcent type, into which they put, to render them stimulating, mustard, piper, vinegar, and the minerals. Rivière speaks highly of mulberry juice. Some, as Chesneau and Stalpart, refer to gargles only in connection with the details of certain cases, but not in general. Sydenham,[46] in considering the treatment of quinsy, says: "The following gargarism should be used, but not after the common way, but that it should be kept in the mouth without agitation till it wax hot, and then that it should be spit out and that it should be repeated now and then.

"Take of plantain water, and red rose water, and the water of frogs' spawn, each four ounces; the whites of three eggs turned into water by beating; of white sugar-candy three drachms, make a gargarism."

The eighteenth century came and went, leaving matters as they previously had been in regard to the use of gargles, at least no record of any changes in opinion has come to the writer's notice. Much that is interesting is found in writings, but owing to the similarity with what has gone before the abstracts will be short. Fothergill[47] and Huxham,[48] in their treatises on malignant ulcerous sore throat, speak of using gargles very extensively, and the former makes a different gargle for the different stages of the disease, particularly emphasizing the use of serpentaria root in decoction as exceedingly valuable in the above disease. Boerhaave[49] treated quinsy with steam and warm gargles, the latter being frequently repeated, and when impossible were replaced by the injection of warm fluids with a syringe. In this latter particular he imitates some older authors. Monroe,[50] Magern,[51] Mead,[52] and Friend,[53] among others, give us to know that they were accustomed to employ gargarisms quite freely, Magern recommending them in asthma to remove mucus. Motherby[54] defines gargarism as a small quantity of fluid which may be taken into the mouth and moved briskly about and then spit out. When employed in disease they should be more frequently repeated than is done in common practice. R. James[55] writes as follows: "Gargarism is sometimes taken in a large sense for every collution of the mouth. More strictly it signifies a liquid medicine, appropriated to affections of the mouth, gums, fauces, and larynx, received into the mouth and there used by way of collution without deglutition." He then quotes at length from Celsus.

Rounding into the present century we will simply glance at the opinions of a few of the many writers in its earlier half. Good[56] was a believer in active medication, as is noticeable in his treatment of quinsy: "After letting blood the throat should soon afterward be gargled with port wine, made still more stimulating by spices or other aromatics, or with strong decoction of bark, rhatany, catechu, very sharply acidulated with mineral acids, the aromatic or pungent cayenne vinegar, or charged with an

[38] Opera med. chimic., Lib. iii., p. 278. Francofurti, 1603.
[39] Riolanus, J.: Med. Parisiensis, p. 455. Parisiis, 1610.
[40] Sennert, D.: Opera Omnia, p. 187. Lugduni, 1656.
[41] Rivière, L.: Opera med. univers., p. 191. Francofurti, 1669.
[42] Hondert Seldzame Aanmerkingen, etc., p. 77. Amsterdam, 1682.
[43] Medicin. Septemtrion, p. 438. Genevæ, 1685.
[44] Morton, R.: Opera medica, p. 99. Venetiis, 1696.
[45] Chesneau, N.: Observation. Medicinal., p. 497. Parisiis, 1672.
[46] Sydenham's Works, p. 210 (Translated). London, 1740.
[47] Fothergill, J.: Works, p. 246. London, 1782.
[48] Malig. Ulcer. Sore Throat. London, 1782.
[49] Aphorisms, p. 211. London, 1735.
[50] Monroe, Alex.: Works, p. 602. Edinburgh, 1787.
[51] Opera med., p. 286. London, 1703.
[52] Mead, R.: Medical Works, p. 496. London, 1762.
[53] Friend, J.: Opera Omnia Medica, p. 528. London, 1733.
[54] Motherby, G.: Medical Dictionary. London, 1785.
[55] Medical Dictionary. London, 1745.
[56] Good, J. M.: Study of Medicine, pp. 306-308. New York, 1829.

addition of cayenne pepper in substance. Mineral and metallic astringents in general want poignancy. Mezereon root also advantageously forms a basis of a gargle." In acute laryngitis with œdema—empresma laryngitis—the same author would, in active, dangerous cases, gargle with ice-water, and put ice on externally to keep inflammation in check.

On the other hand, Doubb, Saissy, Green, and Thompson,[57] who write about the same period, give no notice to gargles. The latter gives accounts of epidemics of influenza from the year 1511 to 1837, and it is interesting to see how very few of the many authors quoted mention gargles at all, and only the earlier ones at any length. Wilde,[58] in writing on the ear at about the same time as Green and the foregoing, speaks of gargles being of value in ear troubles, and that the good derived is probably in large part due to the exercise given the muscles of the palate and Eustachian tube.

The closing quotation of this historical sketch is taken from Quain's "Dictionary:" "With some persons the gargles go little beyond the uvula and base of the tongue, but if the head be thrown back the fluid can be made to pass into the cavity of the pharynx, and may even reach the larynx and vocal cords. The tension of the muscles in thus throwing back the head is apt to provoke efforts at deglutition, so that sometimes small portions of the gargle may be swallowed; and occasionally the effort terminates abruptly in the patient's jerking his head forward and expelling the gargle forcibly through the nose." [59]

Having thus glanced down the records of the past, let us now review some of the various methods, for with all the differences of opinion and lack of detail methods are not altogether wanting. Troeltsch's method is, "Either sitting with the head bent back, or lying down, the person gargling lets an ample mouthful of fluid slip well down into the throat and then makes repeated strong movements of swallowing, without, however, allowing the fluid really to get into the œsophagus and be swallowed. . . . This act should be repeated until at least one-fourth of a litre of fluid has been gargled, and this amount must be used several times daily." In the edition of his work in possession of the writer he does not speak of the nose being held during the "swallowing movements," as others have quoted him. This addition to his method would assist in getting the fluids into the naso-pharynx.

Guinier, as quoted by James and Browne, gives a method of "laryngeal gargling." "A comparatively small amount of fluid only is taken into the mouth, which is to remain a little open, while the head is not to be thrown back, which latter would increase the desire to swallow. The patient should then protrude the lower jaw so as to draw away the epiglottis from the laryngeal vestibule, and on half-uttering a vowel sound the liquid drops into the larynx, and, provided the patient can prevent himself from taking an inspiration, those parts above the level of the vocal cords will be then thoroughly laved." As both James and Browne remark, and I have taken the above in part from both, the method is very hard to acquire, and few can ever expect to accomplish it.

Bosworth[60] says: "The proper method of gargling is to take the fluid into the mouth, throw the head back, and to commence the process of swallowing it; arresting the act, however, just at the point where the voluntary muscles act; that is, the patient should attempt to swallow the fluid, but should stop before the act is complete, and at a point where it is possible for him to expel it again. In going through with this procedure it will be found that the fluid can easily be allowed to pass completely into the pharynx, and down to the point where it will come in contact with the posterior wall, where it may be allowed to rest for an instant and can be ejected without its passing into the stomach."

[57] Thompson, T.: Annals of Influenza. London, 1852.
[58] Wilde, W. R.: Aural Surgery, p. 343. Philadelphia, 1853.
[59] Thorowood, J. C.: Quain's Dictionary. New York, 1834.
[60] Bosworth, F. H.: Diseases of the Throat and Nose, p. 80. New York, 1881.

Hagen's method,[61] which has never, to the writer's knowledge, been fully published, short mention of it occurring in a popular work,[18] is a modified or improved von Troeltsch method; in fact it grew out of the first publication which von Troeltsch made, in which he stated that a person must make a "half-swallowing movement" in beginning to gargle. He mentioned no farther direction as to the way in which this "half-movement" was to be carried out, and in thinking of a more definite plan Hagen states that he discovered his method. The later publications of von Troeltsch simulate very nearly the simple method which follows. The fluid which is to be gargled is taken into the mouth, so that the latter is a little more than half full. The patient is then told to bend the head back, open the mouth wide, and make a complete movement of swallowing, not allowing the mouth to close. The movement of swallowing must be as complete as if intending to send the fluid into the stomach, but if the mouth remains open none, or only a very limited portion, of it ever gets any further down than the œsophagus. The movement of swallowing completed, the air is allowed to "gurgle" through the fluid in the usual way as long as is possible; and when the fluid must be ejected, the patient, placing the tip of his tongue against the incisor teeth of the upper jaw, nods the head quickly forward, and the fluid runs out into the vessel waiting to catch it. If there is no obstruction in the nasal passages to prevent, and the patient has successfully followed instructions, the fluid on being ejected will pass up back of the soft palate and come out through the nose, moistening all parts of the naso-pharynx in its transit. Experience shows that while only one movement of swallowing with the mouth open is necessary, the presence of the fluid so far down the throat causes the desire to repeatedly swallow, but as long as the mouth remains open, far from being a detriment, it is a direct assistance to the perfect performance of the act. This fact is especially true of the last act of gargling, viz., the passage of the water through the nose. The repetition of the swallowing more perfectly dilates the pharynx, allowing the fluid free entrance to its cavity, and by so doing relaxes the soft palate, which is essential for the fluid to get from the pharynx out the nose.

At first glance this method differs but little from that of von Troeltsch, and in reality varies only in its greater completeness and the certainty with which it acts. The advantages are its extreme simplicity, allowing of easy accomplishment, the thorough cleansing of the throat and nose which is thus made possible, and the scope of its application. The difficulties in learning are easily surmounted. First, the act of swallowing with the mouth open is, to a person of normal amount of will-power and muscular control, a very easy matter. To some adults and to children it becomes difficult, and, as the tendency to close the mouth is very strong when one swallows, is only acquired in many cases by placing something between the teeth to prevent closure. Children of scarcely half-a-dozen years may be made to learn by giving them the fluid into the mouth, holding the head back, and, placing the thumb upon the lower incisor teeth, commanding the child to swallow. A small amount of pressure on the lower jaw suffices to keep the mouth open, and thus the gargling begins. By a little patience an adult may teach a child of even dull comprehension to gargle rightly. Adults, while learning, frequently profit by the placing of the crooked thumb between the incisor teeth while gargling, especially when they complain that the fluid all goes down the throat. This latter is frequently true of the first swallow taken each time when first beginning to gargle, and is probably due to the parts not being sufficiently moist; but occurring at other times, is usually due to a partial closure of the mouth, or to the back of the tongue rising up into contact with the soft palate. Many

[61] Moldenhauer, who at one time was assistant to Hagen, attempts an elucidation of the method in his book on Diseases of the Throat, but falls very far short of the mark as regards clearness or exactness.

patients complain of the inability to get the solution through the nose. A little practice suffices in most cases to make it possible to a greater or less extent, while some will get it the first time they try. If there is a hypertrophy or other obstruction in the lower part of the nose, but little or none of the fluid will be forced through, and this is perhaps the most frequent cause of lack of success in this part of the use of the gargarism. This the writer proved by, in many cases, removing the obstruction, and immediately the patient was enabled to get the fluid through the nose with comparative ease. While under the influence of cocaine, the turbinated swelling has retracted and for the time being gargling brought the fluid through in a copious stream, which was again impossible when the inferior turbinated tissue had assumed its former proportions, proving the relation of cause and effect beyond a doubt. Patients frequently speak of the gargle coming out one side better than the other, and this first side will naturally be found to be the larger of the two.

To some persons neither this nor any other method of gargling is at all applicable, owing to the disagreeable retching which it causes, and in a few no amount of practice is of any avail in overcoming this trouble. Occasionally this comes to pass in those to whom the gargle rightly carried out would be exceedingly valuable, *i.e.*, phthisical patients. In these latter the weakening effect of the retching and vomiting more than outweighs the good accomplished, and constitutes a very serious objection. But the number of those who are unable to master the art of gargling after faithful endeavor is very small indeed, so small as not to in the least stand in the way of the general use of this form of therapy.

As will have been already observed, many writers, both pro and con, have based their opinions of gargles upon very superficial evidence, apparently relying upon the statements of their patients as sufficiently accurate. That the fluids used as a gargle can be forced through the nose is a fact too often observed to be questioned, and it follows that in order to have traversed these latter parts, the fluids must reach the posterior pharyngeal wall and lower part of naso- pharynx, at least as high up as the lower lip of the Eustachian tubes. Further, if the fluid comes out the nose when the lower meatus is closed, then it must have attained an even higher level in the naso-pharynx than already mentioned, and can easily be believed to have gained access to the vault of the pharynx, laving all the naso-pharynx. This much we can gain by deduction. But how far down into the throat the gargle when rightly performed reaches, has never been very definitely proven, and the statements of patients are worthless. The laryngoscope helps us but little, and nothing is left but to gargle with colored liquids, observing the throat immediately afterward. The latter method was suggested by the already classical work of French and others, in proving that mucus from the nose reached the larynx. They introduced colored particles of insoluble powder into the nose, and later found them in the larynx or upon its edges. When the writer first began experimenting, many simple fluids were unsuccessfully tried, and it was only with ink that anything at all definite was obtained. At that time, some three years ago, the writer was not aware of St, John Roosa's [62] suggestion when he states: "Those who are sceptical as to the virtue of gargling and who claim that the process does not cause the fluid to wash the pharynx, will be convinced to the contrary by the following simple experiment. Let the posterior wall of the pharynx be painted with the tincture of iodine, and then a gargle of starch-water be used in the manner described (von Troeltsch's method), and the characteristic reaction will be found in the ejected fluid." Even this method did not give sufficiently accurate results, and finally it was proposed to follow this plan: First cleanse the parts by gargling with simple luke warm salt-water; then a solution of ferric chloride, about ten drops of the tincture to a drachm of water and glycerine, was gargled in the right manner twice; this was followed by a gargle of ferro-cyanide of potassium fifteen grains to the ounce. The result was that an intense blue color was given to all parts touched by the first iron solution. By this method, in himself and a medical student, Mr. E. A. R. Baldwin, the writer was able to demonstrate with absolute certainty that the iron solution had reached, first the outer or extra-laryngeal surface of the epiglottis, ligamentum ary-epiglottici, arytenoid cartilages, and posterior commissure. In the latter situation the color encroached further toward the interior of the larynx, and several times was seen on the upper and inner surfaces of the arytenoid cartilages and posterior commissure, working a short distance into the larynx; but no coloring matter was seen on the false or true vocal cords, except very posteriorly, the first examination after gargling. The epiglottis got a slight edge of color on the posterior surface. The larynx was observed immediately after the expectoration of the fluid, and before any movements of swallowing had occurred except such as happened in the gargling. The pharynx was densely colored, and the naso-pharynx as far as the Eustachian tube. When the attempt was not made to send the fluid through the nose, the posterior end of the inferior turbinated bone was reached, as also the posterior surface of the velum. The upper portion of the Eustachian tube was not reached. When the solutions were for the first time used Mr. B—— was an entire novice in the art, having never but once before gargled in the manner described, and this second time he was able, after several attempts, to get the water through the nose, notwithstanding that the task was rendered the more difficult by the presence of a considerable hypertrophy of the inferior turbinated body. When the color solutions were allowed to pass through the nose, the vault of the pharynx was colored a deep blue, as all other parts of the naso-pharynx and nose, the latter only inferior, however.

In the light of these observations we may safely state that the gargling by the above method does bring the fluid into contact with the mucous membrane from the larynx up to the tip of the nose, and therefore the reasonable belief that all of these parts may at one and the same time be influenced by whatever of medicament the gargarism may contain. Even the larynx itself cannot be allowed to escape from being included in the above statement; for may we not conclude that fluids coming into so close relations with the interior of the larynx, as they have been proven to do, also affect these same structures? The larynx is literally bathed by the fluids which fill all the large pyriform fossæ on either side, while above it is the liquid in rapid motion during the gargling.

The above conclusions being accepted, what a field of usefulness is open to a discreetly prescribed and rightly used gargarism! And this is said notwithstanding all that is claimed for the more precise methods of application, for it is not to be supposed that the gargle will ever take their place, but only greatly supplement their action. Yet experience has proven that a simple gargle, long continued, perhaps for months and years, will accomplish as much and often more than the best of treatment with accurately applied local agents for a limited number of weeks. Since becoming acquainted with the method under discussion it has been the writer's custom to prescribe some simple gargle, as a weak salt solution (one-third to one-half a teaspoonful of common salt to the tumbler of water) in every case of throat or nose trouble of a catarrhal nature which came under his care, and such had been the practice of Professor Hagen for many years. The above was also true of all ear cases when it was at all a question of catarrh being a cause of the disease. The patients were also directed, as far as possible, to gargle their throats thoroughly just before coming to either office or clinic for treatment. While the above indiscriminate use of gargles may be open to the objection of being too general and inexact, yet it has been followed by the very best of results, care having always been taken to use no substance that might possibly do harm. There are a large

[62] Diseases of the Ear, p. 299. New York, 1874.

number of persons who, living in a climate such as exists in southern New England, and having had some trouble with the mucous membranes in nose or throat for many years, can never hope to be entirely free from trouble with these same parts, and it is in just such cases where the prolonged use of gargle seems in the highest degree beneficial. Such cases will come under notice from time to time and report, as well as present, objective evidence of great improvement from this simple treatment, faithfully pursued and, this in marked contrast to other methods of treatment which had previously been intermittently on trial. Its very simplicity is a strong recommendation.

The inquiry why these above-stated facts come to pass is not to be answered more completely than to refer the good accomplished to the regular and complete cleansing of the parts from the contained and retained mucus. This latter, as von Troeltsch remarks, is to the method in consideration all the easier accomplished in that the "swallowing movements" squeeze out the mucus from within the glands themselves, and this by virtue of the peculiar construction of the mucous membrane. The observation of a section of the pharyngeal mucous membrane, taken perpendicular to its epithelial surface, will, when under the microscope, develop how the glands are completely surrounded by the muscular fibrillæ whose contraction in the muscular movements of the throat must necessarily compress the mucus from the cavity of the gland toward the surface. Reaching this latter the vibrating fluid which is being gargled speedily removes it when it at least cannot be an irritation by having been retained too long. This explanation refers to the use of plain water or weak salt solution.

Buckmaster[63] relates a very interesting case of "submucous laryngitis" with œdema, in which he very successfully combated death by suffocation by the use of a stream of very hot water injected into the throat. Impressed by this case the writer has used, in all cases of acute laryngitis, tonsillitis, pharyngitis, and acute ear affections, very hot water, as hot as can be borne as a gargle. In the severest forms of quinsy this has been followed out, with but very few exceptions, where the mouth could not be opened at all. Used at the beginning of an attack of any of these acute affections, it has seemed often to help abort them, and if not succeeding in this, to very appreciably shorten the course of the disease and ameliorate its symptoms.[64] In several cases of œdema occurring in tuberculous laryngitis, when the increase in the size of the parts was sudden but not great enough to cause any symptoms of suffocation, very excellent effect has been obtained by gargling very hot water. In these cases the œdema was situated on the arytenoid cartilages, posterior commissure, and ligament ary-epiglottici. Patients seem to find the gargle under all the above circumstances pleasant and agreeable, the relief to the pain being very considerable in cases of quinsy. This latter effect can be decidedly increased and prolonged by the use of a small quantity of some form of opium combined with the gargle. Of the use of ice-water as a gargle, very early in an attack of quinsy, the writer is not able to speak from experience, but it would seem objectionable unless one saw the cases earlier than they usually apply for advice.

In diphtheria, besides the inhalation of steam, hot gargles of lime-water, or some of the other "solvents of false membrane," so-called, are as successful in loosening the false membrane as the spray or swab. In cases of exquisite tenderness of the parts, the "swallowing with the mouth open" would scarcely be possible without great pain, yet, as regards the pharynx, considerable can be accomplished when a complete movement of swallowing is not made. If antiseptics are being used it would seem that in no way could the contact of the germicide and the false membrane or other parts of the throat be better achieved than by the gargle, that is, if aught of good is to be expected as a result of attempted antisepsis, then it will be by a gargle that this end will be most easily and surely attained. In the prophylaxis of diphtheria this is eminently true. After exposure to the contagion of this dread disease it would seem as though nothing could be more effective in removing any of the germs which might have lodged in the throat than a thoroughly executed gargle of some antiseptic solution. Moreover, this matter of the thoroughness in gargling may be one reason why younger children, who are unable to gargle well, are in a given set of cases oftener attacked, provided the same precautions have been taken in all. The recent article of Prudden,[65] who seems to have found a very constantly appearing streptococcus to be the cause of the disease, brings out the fact that, in a study of the habits of the germs present in the false membrane, corrosive sublimate is by far the most deadly foe they have among the list of antiseptics. A comparatively weak solution is deadly to the streptococcus when not encased in a false membrane; so, as a prophylactic, a solution of from one part to from five to ten thousand of water would be strong enough. The question would, however, naturally arise, Is there any danger in using such a solution as a gargle? In a person who is accustomed to its use but little of a gargarism ever gets into the stomach, even when the swallowing process is thoroughly carried out. But a novice necessarily would get more into the alimentary canal, as he would lose control of the parts, allowing much to be swallowed. Yet even this would not be sufficient in the weaker solutions to produce any constitutional symptoms, except in persons unusually sensitive to the effects of mercury. Another possibility is that the parts which are in contact with the solution are all of them capable of absorbing, and especially the buccal and pharyngeal mucous membranes. As regards the former the experiments of J. Karmel, as quoted by Vogel,[66] cover the matter very nicely. This observer made careful estimates of the amount of the medicament lost after holding in the mouth for from two to four minutes solutions of various substances. Of a solution of alcohol, five per cent., about twenty per cent. of the latter disappears; of a two per cent. solution of potassium chlorate, eight per cent. was lost, and of a solution of glucose, same strength as preceding, six and one-half per cent. did not return. These are by no means too small quantities to be set aside as not worthy of consideration. Also, it must be remembered that possibly the other mucous membranes may absorb faster than the buccal. But everything taken into consideration, a little calculation will show that, except in young children, there would seem to be nothing to fear from systemic influence, except in very rare instances of peculiar susceptibility. Next to corrosive sublimate in point of efficiency against the streptococcus of diphtheria, Prudden finds carbolic acid to present itself. In children it might be considered as somewhat the safer. And this gargling by those exposed to the contagion of diphtheria ought to be more general than is usual. Everyone so exposed should, at least once after such danger, gargle a half-pint of antiseptic solution in the most thorough manner possible, and those who are repeatedly exposed should do the same at least three times daily before eating. Some observers have even insisted that every child in the public schools should be made to gargle and submit to an examination of the throat at least once daily during times of danger. While not as radical as these just quoted, yet the writer must state it as his firm belief that many cases of diphtheria would not occur, were timely antiseptic gargling more urgently insisted upon by the physicians in attendance, and many a severe case be much the milder.

[63] Buckmaster, H. H.: Case of Submucous Laryngitis treated with Hot Water. New York Medical Journal, January 22, 1887.

[64] In a conversation with Dr. William H. Carmalt, of this city, the writer recently learned that for some time past he has been using the same treatment with excellent satisfaction.

[65] Prudden, T. M.: Article, Etiology of Diphtheria, in the American Journal of the Medical Sciences, pp. 329 and 450, April and May, 1889.

[66] Vogel, A.: Krankheiten d. Lippen und Mundhöhle, in Ziemssen's Handb., vii. Bd., p. 33, 1. Abth. Leipsic, 1878.

Of the other substances used as gargles, the writer's experience covers alum, iodine, potassium chlorate, the sulpho carbolates, and glycerine. This latter has been frequently used in cases of atrophic pharyngitis as an "after-gargle" to the usual salt solution. The results have been hard to either estimate or compare, but the testimony of patients shows subjective improvement in almost all the cases; but in only two cases has the writer seen any real improvement objectively result from this gargle where it was the only means adopted. Alum is seldom used by the writer, but potassium chlorate and the sulpho-carbolate of zinc have yielded very satisfactory results. In all cases weak solutions are used. The latter substance has occasionally supplemented the simple salt solution, the zinc solution being used intermittently, the other constantly. This method of treatment is especially valuable in treating the chronic pharyngitis of speakers, and the frequent naso-pharyngitis which so abounds in our midst. This is to be understood as taking place subsequent to such operative inference in the nose as may have seemed necessary or expedient. Of iodine there might be much said, but the quotation from von Troeltsch occurring earlier in the article does not seem too strong. When used as a gargle extra care must be taken of the teeth, and the strength varies very largely with the individual. The most convenient way to prescribe it is to dissolve it in glycerine with potassium iodide, and arrange it so that a teaspoonful to half a tumblerful is the right strength for the patient to use. It should not irritate the nose when it passes through it. While these remarks might be further illustrated by many histories taken from recorded cases, still enough has been said to support the writer in the following conclusions:

First. That gargles when rightly used reach the larynx, and at the same time can be brought into contact with all the accessible overlying parts of the upper air-passages.

Second. That the method herein advocated leads easily and surely to the above results.

Third. That the opinions of authors, having been so radically different as regards the value of gargles, have led to a general neglect of a most valuable adjuvant in the treatment of affections of the upper air-passages.

Œdema of the Glottis Caused by Iodide of Potassium.—Dr. A. Groenow, of Breslau, has recently reported several cases, from his own practice and elsewhere, of a peculiar form of iodism, manifested by acute œdema of the glottis. In all he refers to nine cases; two are from his own practice, the remainder are reported by Foerster, Fournier, Fenwick, and Malachowski. On reviewing these, the author draws the following conclusions: 1. That the œdema, which is sudden in its arising, takes place early in the administration of the drug, generally within twenty-four to forty-eight hours; and that its intensity may be such as to call for tracheotomy. 2. That the quantity requisite to call forth the symptoms varies from the lower limit of three grains upward; in one case, though there were slight throat symptoms earlier, yet it was not till the sixth day, when about two hundred grains had been taken in all, that severe dyspnœa set in. 3. That other symptoms of iodism may be quite absent. 4. That the cause of these exceptional effects is not the presence of impurities (iodates), but that the pure drug is alone sufficient. 5. That local laryngeal affections could not be shown to be present and to have predisposed the part to the œdematous outbreak. 6. That the phenomena must be explained by the word idiosyncrasy. 7. That in some cases the idiosyncrasy persists, but that in others it rapidly disappears, the patient becoming tolerant of the drug. The author lays stress on the fact that it is during the early part of an iodide course that this trouble is most likely to arise, and that watchfulness during this stage may avert a dangerous complication.—*British Medical Journal*, May 10, 1890.

A NEW METHOD OF OBTAINING SMALL QUANTITIES OF STOMACH CONTENTS FOR DIAGNOSTIC PURPOSES.[1]

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MR. PRESIDENT AND GENTLEMEN: The chief progress made in the branch of diseases of the stomach during the last two decennials lies especially in the field of the chemical condition of the stomach. Nothing is more rational than to examine the work accomplished by an organ in a diseased condition It is now possible to determine, almost with certainty, by exact examination of the stomach contents, whether the stomach delivers its juices normally or not. The determination of free hydrochloric acid here plays a main rôle, for it forms one of the most important products of the stomach secretion. As is well known, the stomach contents are obtained by means of a tube and Ewald's "expression method."

Notwithstanding the great importance of the results obtained by a chemical analysis of the stomach contents—still this new method has as yet not generally been used by the medical profession. On the one hand an exact chemical analysis of the stomach contents absorbs too much time, and on the other the examination by means of the tube is often unpleasant and difficult both for the patient and even for the physician. Therefore any method which aims at rendering less difficult, even in a small degree, the examination of the stomach-contents, must be welcome to the practitioner, even should there be lost by this method some of the minor details; for it is certainly better to have something objective, than to be merely dependent upon the subjective complaints of the patient.

Having these points in view, Guenzburg[2] tried to avoid the introduction of the stomach tube. This author, in 1889, had his patient swallow potassium iodide enclosed in small rubber bags and fastened by fibrine threads. After the disappearance of the fibrine by digestion the rubber bag opens and the potassium iodide can now be absorbed. As soon as iodine is detected in the saliva, we are sure that the fibrine has been digested, and from this Guenzburg concludes the presence of hydrochloric acid. But this method, though ingenious, is not adapted for practical purposes. For, on the one hand, it causes the necessity of examining the saliva for quite a period of time (one to two hours); on the other, the appearance of iodine in the saliva does not conclusively prove that the fibrine has been digested in the stomach. The rubber bag may have escaped from the stomach into the intestines, the fibrine may have been digested there, and the potassium iodide absorbed. Thus we cannot make any decided conclusion as to the stomach-secretion by this (Guenzburg's) method.

Another simple method originated with Edinger.[3] This author already, in 1881, fastened a small sponge to a silk thread, which he caused his patient to swallow. After several minutes he took the sponge out of the stomach of his patient and examined the expressed contents of the sponge for hydrochloric acid. But Edinger's sponge-method lacks in the following two points: Firstly, the sponge is partly expressed during its withdrawal through the narrow points (cardia and introitus œsophagi), and thus loses much of the obtained stomach-contents; secondly, it absorbs fluid from the moisture of the œsophagus and pharynx. Thus the few remaining drops of stomach-contents in the sponge are obtained impure (*i.e.*, mixed with other fluids), and sometimes are changed in their chemical condition.

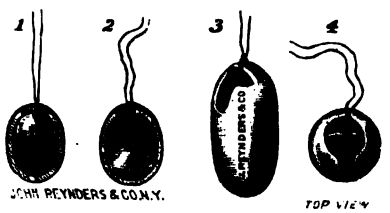
In order to avoid these drawbacks I devised this little instrument, which I shall have the pleasure of showing to you this evening.

[1] Read and demonstrated in the Section on Practice of the New York Academy of Medicine, May 20, 1890.

[2] Guenzburg, A.: Deutsche medicin. Wochenschr., 1889, No. 41.

[3] Edinger, L.: Deutsche Arch. f. klin. Med., Bd. 29, p. 555.

My original idea was to construct the apparatus in such a way that it would enter the stomach closed, there open, be filled with the contents, and would again close while withdrawing it. For this purpose I have simply put two hemispheres into each other in such a way that the external occluding hemisphere, though larger, had a smaller opening diameter than the occluded hemisphere. To the occluded hemisphere a thread is fastened. As long as the apparatus hangs on the thread the small hemisphere occludes the orifice of the larger one, and the apparatus remains closed (Fig. 1). As soon as the apparatus comes



into the stomach and swims in the fluid, the lid must by its gravity fall down, and in this way the apparatus opens, and any fluid of the stomach can flow into it (Fig. 2). When taking the apparatus out by pulling the thread, the lid closes the aperture immediately. Here are two apparatuses constructed upon this principle. But I regret to state that they did not prove practical, for the reason that the opening is too small and the fluid cannot enter into the apparatus freely enough. I therefore decided to omit the lid altogether.

The apparatus which proved to be perfectly adapted for obtaining small quantities of the stomach-contents, and which I have the pleasure of presenting to you now, consists of a small oval vessel (1¾ ctm. long, ¾ ctm. wide) made of silver; on the top of the same there is a large opening with an arch over it; on this arch a silk thread is tied (Fig. 3).

Method.—In order to obtain a sample of the stomach-contents, one proceeds in the following way. The patient is asked to open his mouth widely and the little vessel is placed on the root of the tongue (almost in the pharynx); the patient is now to swallow *once*. The vessel comes after a short time (one-half to one and one-half minute) into the stomach. This point can be easily found by the length of the thread from the vessel to the mouth; it equals the distance from the teeth to the cardia, which is usually 40 ctm. It is advisable to make a knot on the thread marking 40 ctm.; when this knot comes into the mouth, then we are sure that the vessel is in the stomach. The vessel is then left for about five minutes in the stomach and thereupon withdrawn. During withdrawal of the apparatus a resistance is usually felt at the introitus œsophagi. To overcome this difficulty, when the apparatus is at that narrow point the patient should either deeply expire or swallow *once*. By the act of swallowing the larynx is pushed forward and upward, and thus the passage is free.

If the stomach is not empty, the vessel returns filled, and the amount is sufficient for making qualitative tests for free hydrochloric acid and the rennet ferment. This little apparatus may be called a "stomach-bucket."

In people suffering from an abundant secretion of the mucous membranes it might happen that the little vessel becomes filled with mucus before entering the stomach. [In emptying the vessel, it is always easy to distinguish real stomach-contents (namely chyme) from plain mucus.] In case we find principally mucus in the vessel, it is necessary to make the trial again and to cover the opening with a thin gelatinous capsule, which keeps the mucus away from the vessel on its passage to the stomach; there the capsule is dissolved, and the stomach-contents can now enter into the apparatus.[1] On its return from the stomach, the "bucket" being filled, the mucus cannot to any extent enter into it.

This way of making a qualitative stomach test is, on one hand, for the physician as well as for the patient, more simple and handy than that with the tube; on the other, it does not cause any exertion to the patient, and even in ulcer of the stomach there is no danger whatever from a hemorrhage in consequence of the examination. For this reason this method seems to be especially recommended in all cases where there is suspicion of an ulcer of the stomach, and where one likes to avoid the tube. It is also appropriate to the general practitioner, who does not intend to make an exact analysis of the stomach-contents, but who merely disires to determine whether there exist free hydrochloric acid or not.[1] For a full exact analysis of the stomach-contents naturally the tube cannot be avoided.

The best time for obtaining a sample of the stomach-contents is, just as usual, one hour after Ewald's trial-breakfast, or three to four hours after a trial-dinner.

If the sample from the "stomach-bucket" give a positive reaction of hydrochloric acid (with Congo or Guenzburg's phloroglucin-vanillin test) then the same is made use of at once; but should it prove negative as to the presence of hydrochloric acid the obtained sample must be examined more minutely, and if it is found to be mixed with much mucus then it is necessary to obtain another sample with capsule-covering, as described above.

This method of obtaining small samples of stomach-contents gives, besides this, the opportunity to examine several other points having reference to the œsophagus and the stomach, as for instance: 1, The permeability of the œsophagus; 2, in extracting the apparatus, the determination whether the cardia is closed (in this case a certain resistance is felt, as soon as the vessel comes to the cardia), and then what distance there is from the cardia to the teeth; 3, one is enabled, as soon as the "bucket" is in the stomach, to study partly the contractions of this organ, by observing how far, with what force, and at what intervals the thread is pulled farther in, for the thread *alone* affords too few supporting points to be moved by the contractions of the œsophagus. In this way every traction of the thread hints at a farther locomotion of the apparatus in the stomach.

These last points, however, I have studied too little as yet to be able to present you the value of such observations, but I hope, after numerous investigations, I may be able to do so. I would then feel honored, Mr. President and gentlemen, to impart to you the facts resulting from my experiments. This evening I would yet desire to demonstrate upon several patients the method described for obtaining stomach-contents.

[This lecture was then followed by the demonstration.]

122 East Fifty-ninth Street.

[1] It happens but very seldom that the opening of the "bucket" becomes obstructed with some mucus of the stomach in such a way that no contents can enter into it; then the trial must be repeated.

THE AUSCULTATORY PERCUSSOR.[1]

By L. L. SEAMAN, M.D., LL.B.,

late chief of staff, blackwell's island hospitals, new york.

In the furtherance of a profession which has long since broken away from the traditional empiricism of the past, in its observance and devotion to both science and philosophy, the development of any new mechanical appliance for the perfection of diagnostic investigation requires neither apology nor justification. It is enough that there is a work or service yet inviting professional research, and a sufficient provision for it, in the world of discovery and invention. Indeed, this absolute *entente cordiale* between the physician's art and science, both speculative and practical, is a matter of supreme moment, as well as supreme satisfaction. Correct and exact knowledge of morbid conditions is indispensable to the practice of our profession and in no department of

[1] The Stomach-bucket is manufactured by Messrs. J. Reynders & Co., 303 Fourth Avenue, New York.

[1] Read before the New York Academy of Medicine, May 15, 1890.

physical diagnosis has the practitioner encountered more critical and perplexing difficulties than in the exercise of percussion and auscultation.

The auscultatory percussor is an apparatus constructed on strictly scientific principles, by which the practitioner is enabled to realize and delicately discriminate the percussion note, while adding to ordinary percussion the value of mediate auscultation, thus securing a trustworthy and explicit tonal reading of internal conditions. In conjunction with the Edison phonograph it also furnishes an instrument whereby percussion notes may be accurately registered.

I submit the instrument and its mechanical appliances, together with an analysis of the acoustical laws under which its researches are utilized. In further elucidation

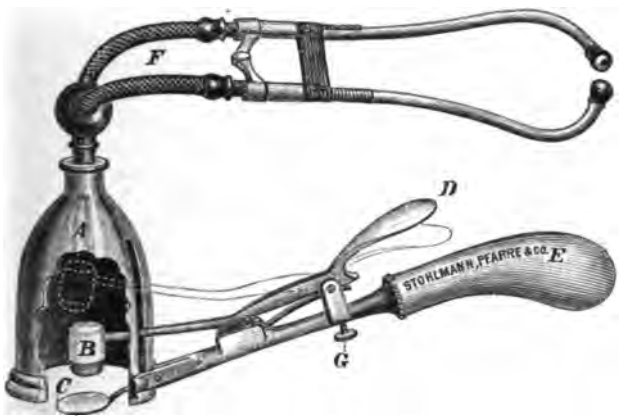


FIG. 1.—In the accompanying illustration A represents the bell-shaped receiver or object end; B, the percussion hammer; C, the pleximeter; D, the hammer-handle; G, the set-screw by which the intensity of the percussion note is regulated; and F, the auditory tubes.

of the scientific data represented in this invention it may be observed that all forms of matter capable of resonant vibration respond in characteristic and fundamental notes. For, says the "Encyclopedia of the Art of Acoustics," "the shortest and most sudden noise has its peculiar character." But it must be borne in mind that these vibrations in passing from one medium into another become modified, if not changed in character, after the analogy of transmitted light, or radiant heat; and any variation in the media through which they pass causes a correlative variation in the character of the vibration itself. On this single fundamental fact or principle of tonal or resonance development the science of diagnostic percussion depends. In the percussion of a healthy thorax a sound is developed which in degree and quality of sonorousness is accepted as a normal standard. This standard, however, is not uniform in different individuals, but varies according to the varying thickness and elasticity of the chest-walls, and to other attendant physiological conditions, the normal standard for any individual being determined by comparative percussion of both lungs, or of one area of a lung with the corresponding area of the other. It is obvious that pathological conditions occasioning derangement or disturbance of legitimate functions give rise to changes or modifications in the note of percussion which the practitioner often interprets with great difficulty. Deviations of resonance in the incipient stages of disease are exceedingly subtle and are identified with extreme difficulty at the very stage when their full significance is of paramount importance. This instrument has been devised especially to secure a more truthful reading of these obscure variations in resonance, and thus to facilitate the examiner in arriving at a more exact diagnosis.

It will not be disputed after reflection that all sonorous vibrations falling within the range of our perceptions have their exterior correlatives as normal conditions of the surrounding atmosphere. To illustrate, if the air could become actually visible as it generates and continues the sound in response to a stroke of the percussor, we could clearly distinguish and identify those conditions of motion on which the sound depends; while its quality, for the moment, would be determined as a condition or state of the volume of atmosphere under examination.

Tyndall graphically compares the striking of a cannon-ball on a target to an atmospheric particle striking the tympanitic membrane of the ear. "The sonorous effect is expressed by the same law as the mechanical effect." "All, in fact," he remarks, "that goes on outside ourselves, is reducible to pure mechanics; and if we hear one sound louder than another it is because our ears are hit harder in one case than in the other.

Therefore, in striking a blow we set in motion a volume of matter which augments as the square of the distance from the starting-point, while the intensity or loudness of the sound thus produced diminishes in the same ratio, or inversely as the square of the distance. Thus it becomes evident that if a mechanical impulse be communicated to any particle of air, and thence to the surrounding atmosphere, and permitted to radiate without interference, it must reach each more remote point with an energy which is constantly diminishing under a uniform ratio; for the reason that the original energy of impulse is communicated to a constantly increasing volume of atmosphere at rest.

The propagation of sound is governed by the same laws of reflection observable in the transmission of light: the angle of incidence and of reflection being found equal under both acoustical and optical analysis. Divergent waves of resonance, therefore, may be duly gathered, concentrated, and propagated through the intermediary of properly adjusted reflecting walls, and delivered, unimpaired, with tonal truthfulness, at a desired aural focus in obedience to well known, clearly demonstrable laws, as may be seen by an examination of the following diagram.

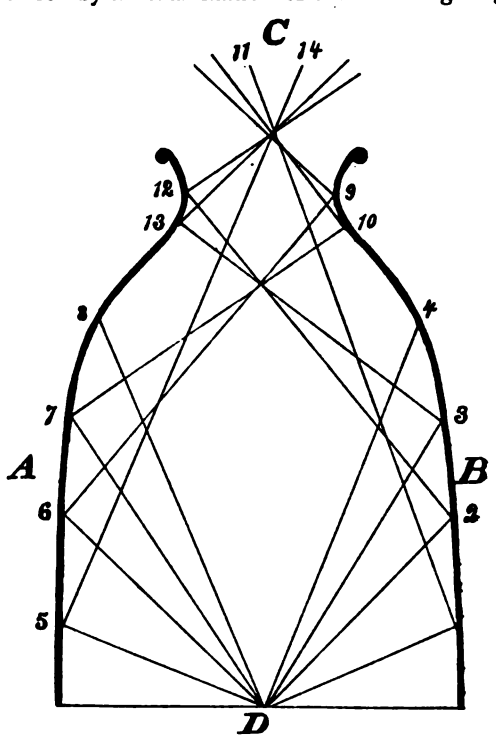


FIG. 2.—Let A, B, C, D represent the receiver or object end of the instrument; D, the point where the blow is struck; C, the entrance of the conducting tube. The lines D 1, D 2, D 3, D 4, D 5, D 6, D 7, D 8, represent sound-waves as they strike against the walls of the receiver; and the angles D 1, 11, D 2, 12, D 3, 13, indicate their reflection to the conducting tube, through which they are transmitted to the ears in all their intensity, after the manner of a speaking-tube or a whispering gallery.

The manipulation of the instrument invites close attention. The object end is placed directly over the area under examination. The thumb raises the lever, and when at a given height it is released, the action of the spring throws the hammer vigorously down, delivering a blow upon the pleximeter. The impulse thus imparted forces the air into sonorous undulations which, after de-

flection along the walls of the receiving chamber, are propagated without dispersion directly to the ears of the listener, be it observed, in isochronous delivery to both ears, thus securing the most perfect tonal report conceivable to scientific speculation.

The receiver does more than merely reflect and transmit the sonorous undulations. Since it is in immediate contact with the vibrating chest-walls, it takes on reciprocal resonance, which it communicates to the observer, thus intensifying the report. Thus the vibrations, instead of being suffered to radiate in every direction, are collected and delivered convergently to the auditory nerves; the lesser deviations, whether of pitch, duration, or quality, are sufficiently augmented to render variations from the normal standard immediately apparent.

Another distinct value of the instrument is that the force of the blow delivered may be graduated and regulated to the finest degree of nicety by a proper adjustment of the set-screw, varying areas may be examined and comparative results deduced with almost absolute precision.

Again, the stroke of the hammer is always exactly perpendicular to the plexímeter. Walsh, in his chapter on "Physical Diagnosis," in speaking on this point says, "the least variation in this respect will assuredly be attended with a difference in the sound elicited." It is apparent that the quality of the resonance must vary with the direction, as well as intensity, of the stroke. The least departure, then, of the percussory blow from the fixed perpendicular vitiates the accuracy of the examination. Nothing is clearer than the fact that the ordinary digital stroke is subject to perpetual variation, even under the exercise of the most intelligent precaution.

The shaft on which the percussor is fastened is so adjusted that the spring, while expending its force, throws the hammer a little beyond the line of centre, so that the blow is struck lightly and quickly, and the hammer rebounds very much as it strikes and rebounds from the string of a piano when a note is struck on the keyboard. By this means the pressure is removed the instant after the blow is delivered, so that the vibrations of the area under examination are neither interrupted nor impeded. The pressure of the pleximeter on the chest is also constant, and this, too, is an important consideration; for, says Walsh in the article just referred to, "no extrinsic condition modifies sound so much as the amount of force with which the pleximeter is applied."

By an additional object end, the instrument may be converted into a flexible stethoscope, identical with Dr. Cammann's. This instrument, according to Dr. Flint, so intensifies sound that auscultation is rendered available even to practitioners with impaired hearing. By the intermediary of the auscultatory percussor diagnostic percussion is also made practicable for this unfortunate class of the medical profession.

While explaining the practical operation and use of the instrument, stress was laid upon the fact that the report of resonance is delivered simultaneously to both ears of the examiner.

In further elucidation of this point, we refer to another law of acoustics, in obedience to which auditory sensations from a given sound are fuller and more perfectly expressed when delivered to both ears. This law is illustrated analogically in the use of the binocular field glass, and binocular microscope. This instrument is, then, a binaural auscultatory percussor in the isochronous conveyance of its tonal report to both ears of the listener—thus serving, while complementing the binauricular constitution of man himself, in his dual function of hearing as well as seeing.

When it is desired to register the percussion note, the binaural tubes of the instrument are replaced by a single one which is connected with the receiving funnel of the phonograph. The percussion blow is struck as before, and the undulations of sound are communicated directly to the diaphragm of the phonograph. This delicate mechanism registers the notes upon its wax cylinder, as illustrated on the specimens herewith submitted. These cylinders may be stored for an indefinite period, and the sound reproduced at will on the phonograph, with sufficient force to demonstrate the original notes.[1] With the assistance of the microphone these notes may be distinctly heard by a large audience.

When it is remembered that the "most delicate shades and variations of the human voice—music, whether instrumental or vocal, solo or multiple, in all its rhythm, melody, and intonation, the lowest as well as the highest notes, may be treasured up and reproduced, duplicated and multiplied indefinitely," it may readily be seen how the phonograph, aided by the auscultatory percussor, may be destined to play an important rôle in the medical teachings of the future.

There are objections to be anticipated and apprehended, as under all similar introductions of scientific and mechanical appliances in the furtherance of our profession. It may be urged that the investigator is liable to suffer confusion and disturbance of auditory impressions, since the instrument intensifies and augments resonances, which might prove misleading. Undoubtedly such objections would be formidable if the explorations were confined to but a single area of the chest; but they lose their force when it is remembered that the investigator will differentiate his conclusions from a delicate comparison over several chest areas; so that local dulnesses can be sharply marked out and intelligently interpreted. It is obvious that the profitable employment of such an intermediary, or of any untried mechanical or scientific invention; implies manual and technical dexterity and well practised intelligent manipulation, and especially a careful training of the hearing in the study and interpretation of resonances, before practical results may be secured.

Many of the objections so forcibly urged against the Cammann stethoscope may without doubt be ventured against the auscultatory percussor; such as "noises in the ears" produced by the pressure and presence of the knobs, resonance of the receiver, etc., but as Dr. Allison has already so admirably answered them they may be dismissed without further notice. Yet some good purpose may be served if I quote his words: "It is common to hear persons speak with disparagement against this instrument (the Cammann stethoscope) on account of the little evils above pointed out. But it would be better for such individuals to master a valuable aid than to carelessly and heedlessly throw it aside and prevent others from using it. All instruments require education and care; even the wooden stethoscope in the hands of a clumsy explorer may fill his mind with prodigious errors. In a difficult, in an obscure pursuit, in dealing with the lives of those confiding themselves to our care, we are imperatively called upon to think seriously, and to try, time after time, before we fling away any contrivance promising assistance in ever so slight a degree. To use skilfully a delicate instrument requires time and application, and this is no more objection than to the acquisition of a language."

Monthly Rhythm in Males.—Dr. Harry Campbell, of London, writes in *The Lancet*, asking for assistance from physicians generally to enable him to solve the question of menstrual periods in man. He believes that such a condition does exist, and suggests the following as a provisional hypothesis: Both sexes of the human species pass through a monthly rhythm, which begins in the embryo, and continues till death. That a monthly rhythm occurs in woman independently of so-called menstruation is manifest, for such a rhythm is easily detected during pregnancy and lactation, and after the climacteric; and he thinks it not improbable that a similar rhythm occurs in the male sex, and in girls before puberty.

[1] At the conclusion of the paper the notes of the cylinder were reproduced on the phonograph.

MEDICO-LEGAL CASES.

By HENRY A. RILEY, ESQ.,

NEW YORK.

CAN a person who murders another receive his whole property as legatee under the will? The New York Court of Appeals has just decided that he cannot. The circumstances of the case were remarkable, and were stated by the judges to be probably without a parallel in legal history.

In 1880 Francis B. Palmer made a will in which small legacies were given to his two daughters, while the balance of the estate was to go to his grandson Elmer E. Palmer, the only restriction being that his wife should have her support from the estate.

The grandson, Elmer E. Palmer, knew the provisions of the will, and in 1882, in order to prevent any possible revocation which might be unfavorable to him, poisoned his grandfather. The boy was sixteen years old, and was put on trial for the crime and convicted of murder in the second degree. He was sentenced to the State Reformatory and was serving out his term, when the action was brought to determine whether he could hold the property. The statute was clear on the point that a properly executed will could only be revoked by the intelligent act of the testator, and the will was conceded to be a valid one in all respects, and was unrevoked by the testator at the time he died. It is true that the Legislature never contemplated so unnatural a crime as that perpetrated by the boy for so sordid a motive, or it would no doubt have placed an exception in the statute to cover the case; but not having done so, could the plain provisions of the law be set aside? This was the problem before the court, but fortunately the abject reverence felt in former times for precedents and statutes did not have sufficient weight to overcome the common sense view of justice.

The reasoning of the court was convincing, and we quote as follows: "There was no certainty that this murderer would survive the testator, or that the testator would not change his will, and there was no certainty that he would get this property if nature was allowed to take its course. He therefore murdered the testator expressly to vest himself with an estate. Under such circumstances, what law, human or divine, will allow him to take the estate and enjoy the fruits of his crime?

"The will spoke and became operative at the death of the testator. He caused that death, and thus by his crime made it speak and have operation. Shall it speak and operate in his favor? If he had met the testator and taken his property by force, he would have had no title to it. Shall he acquire title by murdering him? If he had gone to the testator's house and by force compelled him, or by fraud or undue influence had induced him, to will him his property, the law would not allow him to hold it. But can he give effect and operation to a will by murder, and yet take the property?

"To answer these questions in the affirmative, it seems to me, would be a reproach to the jurisprudence of our State and an offence against public policy." The judge further said that the Civil Law and the Code Napoleon expressly provided that one could not inherit property from a person whom he had murdered, but that no country or state where the common law prevailed had thought it necessary to enact a law on the subject.

This failure to provide legislation required the court to fall back on the natural principles of justice and practically to make a law itself. This function of the courts is rarely exercised and would be open to great abuse, except in the hands of the most upright and scrupulous judges. So great was the disinclination to countenance court-made law, that two of the seven judges of the Court of Appeals felt obliged to dissent from the opinion of the others, although they recognized the enormity of the crime perpetrated by young Palmer. They said that it was important that laws should be obeyed, even though apparent injustice was occasionally the result.

When a life insurance policy is made payable to a different person than the insured man himself, it frequently happens that nothing can be recovered, because the payee has no proper interest in the life of the insured. The complications which grow out of this principle cause a very large part of the litigation over insurance policies. It is held almost universally that the interest which the payee must have is a pecuniary one; that is, he must owe the insured a support, or be under some obligations to him which might cause loss at his death. It is not necessary that the pecuniary interest be large or capable of exact computation, but there must be something more than affection.

A recent case goes over the ground thoroughly and reviews the decisions in the various States, showing that there is substantial accord between them all.

In general it may be said that there must be "a reasonable ground, founded upon the relations of the parties to each other, either pecuniary or of blood and affinity, to expect some benefit or advantage from the continuance of the life of the assured," otherwise the policy cannot be enforced against the insurance company.

An unusual case of extorting a confession was brought to light in a Florida court recently, and the alleged criminal was held not to be bound by the statements made under duress. The facts were as follows: The defendant was in the custody of a guard, charged with the murder of a man named Hammond. A rope was placed around his neck by the guard, who took him to where an inquest was being held over the remains supposed to be Hammond's, carried to the woods not far off, the end of the rope thrown over a limb, and the defendant was then told that his last hour had come; that he had to tell all about the crime with which he was charged. The accused denied all knowledge of the crime. The guard then tightened on the rope, let the accused down, and he again denied all knowledge of the crime. The rope was again tightened, and the prisoner then said if they would give him two minutes he would tell all he knew, and he then confessed that he was guilty, and the guard forced him to promise that he would "stick" to what he then said, and that he would stick to it in court. The guard then carried the prisoner before the inquest, where there was great excitement and talk of lynching, and he again confessed. The next day he was carried before a justice of the peace for preliminary examination, and there, in the presence of two of the guards whom he had promised to stick to what he first said, without counsel, without any caution by the justice, without being informed as to his rights, he again confessed. The court held that the last confession, although made under different circumstances from the others, was made under the same influences, and could not be used against the prisoner.

A CASE OF CONSERVATIVE SURGERY ON THE HAND.[1]

By LEONARD S. RAU, M.D.,

NEW YORK.

As far as I have been able to ascertain, the operation which I performed upon the case about to be described is a unique one, as I have been unable to find any similar case described in surgical literature. My excuse for reporting the case at so late a date is due to my constant efforts and hopes to find the patient. Unfortunately I am unable to do so, which fact I regret exceedingly, for it would be extremely interesting to see the man's condition four years after the operation. People who saw the man some months since assured me that he has perfect use of his hand and that it gives him no inconvenience whatever. The history of the case and operation is briefly as follows:

Franklin A——, aged thirty-seven, was admitted to

[1] Presented before the New York County Medical Association, May 19, 1890.

the Ninety-ninth Street Hospital on July 10, 1886. While working in a saw-mill his right hand was caught by the machinery, cutting off his thumb at the metacarpophalangeal articulation, and producing a compound, comminuted fracture of the metacarpal bone of the index-finger, which fracture began about one inch below the phalangeal articulation and extended up to the carpal articulation. There also existed a lacerated wound of the hand on the dorsal and palmar surfaces, extending as far as the metacarpal bone of the middle finger.

The patient was anæsthetized, the hand made thoroughly aseptic, an Esmarch bandage placed above the wrist, and then all of the fragments of the bone of the index-finger were removed. It then became evident that his index-finger would be useless without a metacarpal bone, but it did not seem right to remove it, as above the fracture the finger was entirely uninjured. It then occurred to me that by cutting off the head of the metacarpal bone of the thumb, and then bringing it over and wiring it to that portion of the metacarpal bone of the index-finger that remained, that this could take the place of the fractured bone and the man would then not have to lose his index-finger. This was accordingly done. Two holes were drilled into the bones, silver wire passed through them, and they were then approximated and brought in close contact. All of the superfluous and badly lacerated tissues were cut away, a drainage-tube was inserted, and the wound sewed up with a continuous catgut suture. The hand was then placed upon a splint and antiseptic dressings applied.

The patient progressed far better than I had anticipated, and on August 20th there was firm union between the bones. In the beginning of September the silver wire, which protruded through a small opening in the skin, was carefully removed. There was considerable anchylosis of all the fingers and some œdema. This, however, soon disappeared, and by the end of September, when I saw the man for the last time, he had excellent use of all of his fingers, and had a very useful and shapely hand.

Hoffmann Arms, 640 Madison Avenue.

Clinical Department.

TWIN PREGNANCY—ABNORMAL MENSTRUATION—PLACENTA PRÆVIA—BLIGHTED FŒTUS—ARTIFICIAL DELIVERY—RECOVERY.

By THEODORE POTTER, A.M., M.D.,

INDIANAPOLIS, IND.

I was consulted August 3, 1889, by Mr. T——, in regard to his wife. He stated that she had for the second time passed her menstrual period, was suffering some pelvic pain, and had an almost constant feeling as though she would menstruate, yet the flow did not appear. Mrs. T—— afterward described it to me as a peculiar "stuffy" sensation which led her to think almost hourly that "something would break loose." I prescribed for her in a simple way, suspecting pregnancy, and gave directions as to her conduct. A week later she was somewhat relieved, but was having a slight discharge tinged now and then with blood. August 20th she slipped and fell in the doorway, but did not seem to experience any ill effects from the mishap. On the 27th she had a violent hemorrhage, losing, she said, nearly a quart of blood. On the 30th another smaller, but yet profuse, hemorrhage, both coming suddenly and almost without warning. On the 31st I was called to see the patient for the first time.

Examination revealed a slight oozing, the cervix being barely within reach. The uterus was about the size of one in the fifth month of pregnancy, irregular shaped and unusually hard. I suspected a fibroid tumor, no fœtal heart-sound detected, but the placental bruit was exceptionally distinct and located low down, as low as the stethoscope could be forced into the pelvis. Diagnosis: pregnancy, placenta prævia, perhaps complicated by a fibroid.

The cervical canal would admit the finger to but not through the internal os. Tampon applied. Another moderate hemorrhage followed removal of the tampon the next day.

September 3d the husband brought me, as ordered, the material discharged, which evidently contained placental tissue. I advised immediate dilatation and delivery, as the woman was already almost exsanguine. Dr. E. S. Elder saw her in consultation at midnight. Dilated the cervix with fingers and at once struck the presenting placenta completely covering the internal os. The life of the child being out of question, the finger was swept around, tearing loose and removing all within reach. Hemorrhage now ceased and the finger passed freely around an apparently empty cavity, in size about that one would expect to find at three months. Not finding the fœtus we supposed it had escaped with some of the clots. The uterus was still large, irregular and hard as described; but, after careful examination, and entertaining the suspicion stated above, we thought our work for the time ended. The deception was complete, for deception it was, as the sequel showed. The uterus was washed out with a one to five thousand bichloride solution, and as a precaution, a tampon applied.

Early the next morning I was called in haste, and found the patient bleeding and in a serious condition. Hastily cleaning my hand, I introduced it into the vagina, rapidly and forcibly dilated the now more open cervix to admit all my fingers, and removed the following: First, the remainder of the placenta prævia from the wall above the internal os, attached to it being the sac described below; second, a fœtus fully five months old; third, the placenta belonging and corresponding to the latter in size and appearance. I washed out the now really empty uterus with boiled hot water, and thus brought my patient's troubles to an end. Recovery uninterrupted and complete. She menstruated normally October 15th.

The portion of the placenta prævia removed at the second operation measured two by three inches, being apparently about two-thirds its original size. It was thin, dense, leathery, evidently blighted. Closely attached to it was a sac measuring one and one-half by three inches, containing a clear, straw-colored fluid, floating in which was a flattened, mummified fœtus. The latter, the limbs in the ordinary fœtal position, measured one inch. The ears, fingers, toes, etc., were well formed, and no doubt it was of the same age as the other. The sac containing it was closely adherent to its placenta over a circular area one and one-half inch in diameter around the attachment of the cord. The cord was one and one-half inch long and about the diameter of a large pin. There was nothing unusual about the larger fœtus; the uterine face of its placenta presented the unmistakable signs of recent bleeding.

The condition of things would seem to have been as follows: A twin pregnancy occurred; the lower placenta was prævia, not centrally implanted, but sufficiently near it to cover the internal os; the upper part of this placenta and its fœtus were pressed upon by the other product of conception. Perhaps this was the cause of the blighting and of the peculiar attachment of the sac. The fœtus died and mummified, while its placenta continued to grow, though imperfectly.

The reason of our being deceived at the first operation was that the small sac, being caught above, and the remainder of its placenta, after tearing away the part around the os, being thin and plastered tight against the uterine wall, there was presented to the finger the sensation of an empty, clean cavity. The uterus was contracting, the upper sac was made tense, and the breech of its contained fœtus presenting, a moment's thought will reveal how this added to the deception as to the shape and character of the cavity around which the finger swept.

The patient is an intelligent woman, aged thirty-four. She has had five children, no miscarriages. The last three children are living and healthy; the first two were delivered with forceps after ergot had been given freely by a physician for some hours; both were dead, but with no evidence of disease. The youngest child is twenty-eight months old. She insists that she had missed but two menstruations, the hemorrhages occurring at the time the third was due. At least she had a uterine flow, proper in time and character, and nothing sufficiently abnormal about it to attract attention. She thought she was menstruating at those times, and hence when I saw her supposed herself about two and a half months pregnant, but could not account for the size of the uterus.

A number of interesting questions are suggested in studying this case. Was there a genuine menstruation as the patient thought? The explanation and possible diagnostic value of the peculiar sensation complained of when I was first consulted. What aroused the hemorrhages; was it the mere presence of the placenta prævia, the conditions arising with the fact that it was time for the menstruation to occur, or the fall of the week previous? Which placenta bled first; was it bleeding from the placenta prævia which excited the uterus, made it contract, and partially detach the other, or did the fall cause hemorrhage from the upper placenta, and thus start the final disaster? Both had certainly bled; they were carefully examined by the late Professor T. B. Harvey, who was positive in this opinion. Why did the blighting of the lower fœtus and placenta occur? was it due to their being caught and squeezed by the other, or was it the result of disease? Of the latter there was and is no evidence. Finally, I call attention without comment to the location of the supposed placental sound as a diagnostic factor. Small value is placed upon this sign by most authorities.

This case seems an interesting one and worthy of record, because of the peculiar combination of conditions which rendered it dangerous for the patient and puzzling and instructive to the attendant. It was reported to the Marion County Medical Society, October 16, 1889, with presentation of the specimens. The latter are now in the museum of the Indiana Medical College.

EXPECTANT TREATMENT VERSUS LAPAROTOMY FOR GUNSHOT WOUNDS OF THE ABDOMEN.

By R. W. KEENE, M.D.,

VERSAILLES, KY.

In giving the three following clinical histories it is not my intention either to contravert or to affirm the necessity for immediate laparotomy in gunshot wounds of the abdomen, but simply to state the facts as they have recently occurred in my practice, more especially as I have just seen extracts from two papers read before the American Medical Association at Nashville, by two distinguished gentlemen, viz., Dr. Barrow, of Lexington, Ky., and Dr. Manley, of New York, in which they take diametrically opposite views as regards the necessity for immediate laparotomy, and as to results of operation. I think it the more important as the tide of opinion seems to be reversing in regard to the necessity of opening the abdomen in all cases of shot wounds of this region, whether there be urgent symptoms or not. These are the only cases of shot wound I have had recently—all treated without operation—all recovered.

Case I.—M——, aged twenty, was shot, June 26, 1888, at noon, with a 32-calibre pistol-ball, entering the abdomen two inches to the left of, and just below, the level of the umbilicus. Dr. Smith, the attending physician, called my friend Dr. Crenshaw and myself in consultation at 10 o'clock A.M. of the 27th. Found the patient with pulse of 88, temperature 101°F., suffering considerable pain. We could find no evidence from shock, etc., of the intestines having been wounded. Advised hypodermic of morphine and promised to see him the next day. 28th: Found him resting comfortably, a little vomiting of green matter, probably from a little local peritonitis, but no marked distress; slight tympanites. Advised waiting, but to send messenger if any urgent symptoms arose. 29th: Messenger came saying that patient was vomiting green material, and to be prepared to operate. When we arrived (distance eight miles) the bowels had moved freely and all symptoms were relieved, hence we advised letting well enough alone, and in two weeks he was up and about.

Case II.—W. L——, aged eleven, was shot, August 3, 1888, with 32-calibre pistol, at 7 o'clock P.M. Saw him at 9 o'clock of the same evening. Ball entered the abdomen two and one-half inches to left of, and one inch below, the level of umbilicus. No shock, some pain, for which gave morphia. Dressed external wound with iodoform and lint. Left, promising to return in the morning.

August 4th, 9 A.M.—Found him with temperature 100° F., pulse 90, resting comfortably under small doses of morphia. Retention of urine, for which used catheter. 6 P.M.: Condition about the same.

August 5th, 9 A.M.—Condition unchanged, had to use catheter and morphia twice daily. 6 P.M.: Resting comfortably.

August 6th, 9 A.M.—Some tympanites; temperature 102° F., pulse 112, no special distress; attributed the rise in temperature to local peritonitis. Ordered a saline purge, and follow with enema, and send in haste for me if green vomiting should commence. At 2 P.M. messenger came with report that he had vomited one pint of green matter. I hurriedly went out a distance of five miles and found that bowels had not moved. The case now looked serious; consequently I posted a messenger in haste for two of my colleagues to assist in the operation, as it now seemed inevitable that it must be done. While waiting for assistance repeated saline and enema, and had the satisfaction to get a copious discharge from the bowels, and by the time assistance arrived the temperature had fallen to 100°F., and pulse to 100, and all alarming symptoms gone; but, fortunately, we had lost the opportunity for laparotomy. In four days more I ceased my visits, though the father had to use the catheter some days longer. Recovery.

Case III.—G. H——, aged nineteen, was shot, June 3, 1890, with 22-calibre pistol at 9 P.M. My colleague, Dr. Shields, attending, called me in consultation immediately after the shot. Found the patient lying on the floor of the doctor's office with a bullet-hole in the abdomen, one inch to the left of umbilicus and on a level with it; ball entered the cavity; patient composed; pulse 64; no shock; no pain of consequence. Advised dressing the external wound antiseptically and remove him carefully to his home and await developments; be prepared to operate on first symptom of wound of intestine.

June 4th.—Saw him again. Rested well during the night; no pain except a sense of weight in the abdomen; no evidence of a solution of continuity of the abdominal contents. I advised further waiting, contrary to advice of other professional friends. His temperature this day was 100° F., pulse 72, and this was the highest point reached. I did not see him again; but he has recovered, and is now, fifteen days after the accident, walking about town, and we have, fortunately, missed another laparotomy.

I do not pretend that I was justifiable in the course pursued and advised in these three cases; but I believe in future I would do likewise if my judgment told me, as it did in these, that there was no wound of the intestine.

Nitrate of Potash in Chronic Malaria.—Dr. J. D. Hunter and other Texas physicians recommend highly nitrate of potassium in chronic malaria (*Daniel's Texas Medical Journal*). In combination with iron and quinine, nitrate of potash has long been used by Southern physicians for this purpose.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, July 19, 1890.

THE HYDROPHOBIA SCARE.

ONCE upon a time when Death and Pestilence bargained for human lives, it was agreed that an equal division of spoils should be made. At the end of the epidemic, Pestilence complained that Death had taken more than his share, while Death maintained in turn that more than the agreed number were stricken by Pestilence. The quarrel was, however, soon ended when Fear appeared to explain that it was he alone who had been accountable for the discrepancy, not only in increasing disease but in swelling the death-rate. In fact his record was greater than that of Pestilence and Death combined. Moral: Give Death and Pestilence a reasonable chance on a fair field. Although we do not wish to dignify the present hydrophobia scare by calling it an epidemic, the fear of it which has been scattered so widespread over the land has placed it on the top wave of general discussion. Fear has at present everything to himself and it is time to call a halt. As we have said before, we do not wish to question the scientific motives of the gentlemen who manage hydrophobia institutes, but we doubt the good results that are said to have been obtained by them. In attempting to prove the truth of the theory of preventive inoculation they are starting from an airy nothing and striving to work down to solid facts. But the real bottom is a great way off. There is too much of partial and willing testimony concerning the question at issue to give it any scientific value whatever. Logically speaking, everyone must admit that it is exceedingly hard to prove how you may prevent what may never happen, or in other words, how you can prove that a thing which at best very rarely happens is prevented from happening at all by the use of a supposed preventive. In attempting to argue the question we are swinging around a circle of negative propositions.

Everyone who has studied the subject acknowledges that hydrophobia, if, indeed, it exists at all in the human subject, is at least a very rare disease. Compare this fact with the almost countless number of persons who are bitten from year to year by dogs supposed to be rabid. If statistics were collected on this point the results would prove that there is no more apparent relation of cause and effect between the bite of a dog and hydrophobia than between an accidental sneeze and a stroke of lightning.

And yet what do we read in the daily papers in connection with the present hydrophobia scare? Judging from these accounts it would be fair to assume that the community was as much exposed to hydrophobia as to typhoid fever, pneumonia, or any other of the ordinarily common diseases. Scarcely a day passes that some new cases of dog-bitten patients do not present themselves in the terrible plight of fear of a horrible death. It does not make any difference apparently whether or not it is known that the dog was mad, the patient gets the benefit of the doubt, and the so-called preventive does its perfect work. And the cry is still they come.

Scientifically speaking it is still to be proven that this inoculation of hydrophobic virus has ever prevented an attack of hydrophobia or modified its course. And where are the cases of hydrophobia said to be dying or dead throughout the country? What has become of those which have been abandoned to their fate as beyond the reach of the preventive treatment? Surely such are interesting enough to warrant detailed records in scientific journals. And yet we never hear of them except in sensational reports connected with the booming of the inoculation theory, and the popularization of special hospitals in which the alleged wonderful treatment is practised. We say this in no captious spirit of criticism, but in the true interest of hundreds who may become unnecessarily alarmed and may be in despair of timely assistance. All things being equal, they can from the present outlook afford to take the chances of treatment by the family physician. We can certainly hold him responsible for any marked increase in the mortality statistics from this dreadful disease in case he fails in the performance of his duty. Then again, if any of the thousands of physicians may meet with a single case in a lifetime of practice we may obtain some impartial records of the etiology, symptoms, diagnosis, pathology, and treatment, and thereby obtain a much needed natural history of hydrophobia. Science always favors inquiry and honors the conscientious investigator. All praise, then, to the man who has done the most work in that direction. His theory is an admirable one, but it is still much too far above ground. The house is on stilts instead of solid rock. Until the foundation is more surely laid the country is reasonably safe. The man, woman, or child who may be bitten by dog, cow, horse, or hen may still live; at least, he or she has a much better chance for so doing than either of the offending animals, even without further inoculation.

NOT AN EXAMPLE TO BE FOLLOWED.

ABOUT once a year, and oftener in good seasons, our esteemed contemporaries on the other side of the water raise their voices with one accord in praise of His Royal Highness Duke Carl Theodore, of Bavaria. The present is one of these joyful occasions when the pæans begin to resound, and the following is a specimen of one of the more moderate of them, which appeared recently in an English journal: "From Meran we hear that H. R. H. Duke Carl Theodore, of Bavaria, has resumed the gratuitous treatment of eye diseases among the Tyrolese poor, and that during the last four weeks he has carried to a successful issue 170 operations, of which 53 were for cataract. His Royal Highness is a duly qualified practitioner of the Munich school, whose curriculum he supplemented by the cliniques of Vienna and Berlin; and it is as no mere amateur, but as a surgeon whose skill goes

hand-in-hand with his enthusiasm for the healing art that he attracts to his hospital at Meran not only the Austrian, but the Swiss and the Italian poor, who travel long distances to benefit by his humane tendance and successful treatment."

There is nothing offensively adulatory in this, as there is in many of the notices concerning the royal doctor, yet there is a tone of commendation in it which would perhaps be less evident were the paragraph about some ordinary mortal of obscure birth. It is very well to praise industry and to laud one who, having the choice, yet prefers work to idleness. But industry is not the only virtue in this world, and the unreasoning practice of it is by no means always to be commended. The well-to-do have other duties toward their fellows than mere charity, as this word is generally understood, and their chief duty is to keep out of the way of those who must work to live. They need not necessarily be idle—there is plenty of unremunerative work that cannot be done by the poor man, and which commends itself especially to the man with leisure and means at his command. Let him work, if he will, and all honor to him for so doing, but let him not take work, paying work, from others who must have it or starve. The continual cry is that the medical profession is overcrowded, and the complaint is only too well founded on fact. The supply is far greater than the demand, and it is impossible for all to get enough to do to live decently. Such being the case, of course every new worker takes away something from others, and something which most of them can ill afford to lose, and unless he must work to live we hold that he does wrong to his fellows in practising medicine. He is injuring his colleagues in the same way as the dispensaries of evil odor. It makes no difference to say that he loves the practice of his profession, and therefore has a perfect right to continue in it. This is the argument of the selfish man, and not of the one who thinks of the needs of others. The duty of the rich man is not to work in overcrowded fields where those of slender resources must find their living, but rather, if he will labor (for which determination there can be nothing but praise), to occupy himself with some useful work for which there is no remuneration of a material kind. Let him work for fame, and let no one begrudge him the fame that his industry may win for him, but let him not take the bread out of the mouth of his less fortunate brother.

THE TREATMENT OF DETACHMENT OF THE RETINA.

THERE is no greater opprobrium of ophthalmology than that of the treatment of detached retina. Despite every attempt at relief which medicine or surgery could devise, the disease is almost always unaffected, and more or less blindness results. Rest in bed, pilocarpin, and antiphlogistics have been the chief resorts, but these offer little hope. A great many surgical measures have been attempted, but most ophthalmologists view them with distrust.

The disease is caused by traumatism, progressive myopia, and other causes which are unknown. Leber and Schoeler hold that there is always a tear in the retina at first, and it is believed that some inflammatory process with exudation is present between the retina and choroid.

Among recent methods of treatment, Galezowski has asserted that good results follow the passing a catgut thread through the detached portion. Dr. S. L. Phillips, in the *Atlanta Medical and Surgical Journal*, calls attention to the fact that, in making observations upon rabbits' eyes of injections of various antiseptics to test their value in septic choroiditis, Schoeler had results which were such as to make him think that this treatment might be of use in retinal detachments. After sundry experiments with a number of drugs, tincture of iodine was finally settled upon as the only preparation of any real use in this trouble. It was sufficiently strong to do the work, and not too irritating. It was injected through the sclerotic, choroid, and retina into the vitreous chamber, in preference above the detachment and near the supposed opening. This was done with a hypodermic syringe, but with a curved instead of a straight point, and from 2 to 6 drops injected. The vitreous is compressed, the retina shoved toward the choroid, and any old adhesions torn up. The fluid, now diluted, passing through the rent, comes in contact with the other surface of the retina, producing adhesive inflammation; the retina being then in contact with the choroid, becomes firmly attached. The earlier these injections are undertaken the better; for when the retina becomes wholly detached from the choroid, being fast only at the optic nerve and ora serrata, or when degenerative changes have taken place, it is too late for any treatment. Of course, after this operation, the patient is put to bed, with compress bandage over the eyes, and kept there one or two weeks. Under these circumstances a light or milk diet is preferable. If there is much pain, which is likely, morphia, hypodermically, can be given. The process of healing is watched by the use of the ophthalmoscope.

Schoeler reports five cases in detail. In these five cases the results have been most satisfactory.

Unfortunately for the promise of this method, Gelpke reports a most disastrous result following its use in one case. The injection of three drops was followed by a purulent choroiditis. This certainly need not follow a scrupulously careful antiseptic injection, but it shows the dangers of the practice.

THE CONTAGIOUSNESS OF PHTHISIS.

AT the present time, when so much is being written about the contagiousness of phthisis, it is well occasionally to hear the other and the older side. Dr. A. Haupt, of Soden, has recently written a monograph in which he has collected many facts to support the view that, after all, it is the inherited tendency or "soil" which is the important factor. He quotes from the Report of the Collective Investigation Committee in respect to the Brompton Hospital, in which the danger of infection is declared to be utterly improbable. Celli, Guarneri, Aufrecht, and others, are of nearly the same opinion. Robertson found that in at least 80 of 100 married couples in which the husband or the wife was consumptive, the other party did not become so. Leudet observed that, out of 112 widows and widowers of persons who died of consumption after illness varying from one to twenty years in duration, 105 remained perfectly healthy. During the fourteen years of Dettweiler's work as physician in the Consump-

tion Hospital at Falkenstein, there has not been a single case of infection among the attendants, some of whom were for seven years in constant contact with patients who were dangerously ill. The author quotes the following words of Professor Leyden: "Immediately after the discovery of the tubercle bacillus there was a tendency to attach much more importance to contagion than before, but further observation has shown that it does not play so very great a part, and that the majority of cases are due to heredity." Of 680 Italian physicians, 59 declared for contagion, 124 against it, and 497 mainly for heredity. In England 792 out of 1,078 declared against contagion. Dr. Haupt reports his own experience at Soden thus: Among the 1,500 inhabitants of the place there are 101 who let lodgings. In most of the houses the wives, with sisters or daughters, serve and tend the tuberculous patients who come for treatment. In many houses servant girls from the neighboring villages, hired for the summer, help, making the patients' beds, cleaning their rooms, beating the carpets, removing the sputum—these occupations, so closely connected with the danger of infection, are, among others, the tasks of these persons; and it must be added that they prefer the severest cases, because, as more help is required, the remuneration is higher. In winter the members of the landlords' families occupy the rooms in which generally the most severely affected patients have laid—the rooms on the ground floor. Between 1855 and 1888, 48 of the 238 members of such families died, 10 of them of tuberculosis. In 6 of these 10 cases heredity was demonstrable, and the remaining 4 were due to colds and external causes. Of the 415 servant girls, 17 died, 5 of them of tuberculosis, also demonstrably due to other causes than infection. Within thirty years, then, among 653 persons, most of whom were for several summers with and in attendance on the patients, there were 15 deaths from tuberculosis, not caused by infection. The same proportion prevails among other persons in close contact with consumptive patients, attendants, washerwomen, etc.—*Lancet.*

News of the Week.

American Public Health Association.—The Eighteenth Annual Meeting of the American Public Health Association will be held at Charleston, S. C., December 16, 17, 18, and 19, 1890. The Executive Committee have selected the following topics for consideration at said meeting: 1, "Sanitary Construction in House Architecture," *a*, Heating, *b*, Lighting, *c*, Drainage, *d*, Ventilation; 2, "Sewage Disposal;" 3, "Maritime Sanitation at Ports of Arrival;" 4, "The Prevention and Restriction of Tuberculosis;" 5, "Isolation Hospitals for Infectious and Contagious Diseases;" 6, "Establishments in Favorable Climates for Persons having Tuberculous Predispositions," *a*, Schools for Children and Adolescents, *b*, Sanatoria, *c*, Permanent Residence; 7, "Papers on Miscellaneous Sanitary and Hygienic Subjects." All papers will be received by the Executive Committee subject to the requirements of the By-Laws. Preference will be given, however, to papers upon the subjects selected by the Committee in making up the daily programme of the meeting. All persons who propose to present papers at the next meeting of the Association will be governed by the following By-Laws of the Executive Committee: "4. All papers presented to the Association must be either printed, type-written, or in plain handwriting, and be in the hands of the Secretary at least twenty days prior to the annual meeting, to insure their critical examination as to their fulfilling the requirements of the Association. 5. If any paper is too late for critical examination, said paper may be so far passed upon by the Executive Committee as to allow its reading, but such paper shall be subject to publication or non-publication as the Executive Committee deem expedient. 6. All papers accepted by the Association, whether read in full, by abstract, by title, or filed, shall be delivered to the Secretary as soon as thus disposed of, as the exclusive property of the Association. Any paper presented to this Association and accepted by it shall be refused publication in the "Transactions" of the Association if it be published in whole or in part by permission or assent of its author in any manner prior to the publication of the volume of "Transactions," unless written consent is obtained from the Publication Committee. 7. Day papers shall be limited to twenty minutes, and evening papers to thirty minutes, each." Invitations extended to individuals to prepare papers for the Association do not imply their acceptance by the Committee, merit alone determining that question. All communications relating to local matters should be addressed to H. B. Horlbeck, M.D., Chairman Local Committee of Arrangements, Charleston, S. C. Another circular will be issued before the meeting, giving transportation rates, hotel rates, etc. Blank applications for membership can be obtained by addressing the Secretary, Dr. Irving A. Watson, Concord, N. H.

Death of Dr. Charles L. Allen.—Dr. Allen, of Rutland, Vt., one of the most prominent physicians of the State, died suddenly on July 2d. Dr. Allen was born in Brattleboro, on June 21, 1820. He was graduated from Middlebury College in 1842, and from the Castleton Medical College in 1846. The deceased was a professor in Castleton Medical College before the war and afterward became president of the institution. He left there, however, to accept the professorship of Civil and Military Hygiene in the University of Vermont at Burlington. While there he went to the war and was appointed a member of the examining board of brigade surgeons. In 1857 he was Acting Professor of Chemistry and of Materia Medica in Middlebury College. Dr. Allen was secretary of the State Board of Health, and had been connected with the board since its organization; he did a vast amount of work as secretary, for which he received no compensation. He edited the *Sanitary Visitor*, and did most valuable work in the interest of the health of the State. The deceased was the first president of the Rutland Medical Club, an honored member of the Vermont State Medical Society, of the American Medical Association, and of the American Academy of Medicine.

Mushroom Poisoning is said to be of very frequent occurrence among the Italian peasants, who are very fond of mushrooms, but seem unable to distinguish between the edible and poisonous varieties.

Morphine as an Antagonist to Atropine.—A case of considerable interest occurred at Chadarghat in Hyderabad recently, and is reported in the *Medical Record* of Calcutta. A medical student, who was a great sufferer from neuralgia, for which he was accustomed to take antipyrine, went to indulge in his customary dose, but hit upon the wrong bottle and took six grains of atropine instead. In a few moments he became unconscious and fell. He was seen by a brother medical student, who instantly ran off and called Surgeon-Major Edward Lawrie. An emetic was speedily given, and the stomach-pump used to wash out the contents of the stomach. The patient, however, seemed to be rapidly sinking from the effects of the drug. The pupils were dilated to their fullest extent, there was foaming at the mouth, stertorous respiration, and a rapid intermitting pulse. The condition seemed hastening toward the end, when Dr. Lawrie thought he would resort to the antagonistic effects of morphine, and injected one grain of this drug subcutaneously, with no apparent effect. He then injected another grain, but with no decided result. The patient, though still alive, seemed hovering in the balance between life and death. From eight o'clock in the morning till three in the afternoon artificial respiration was resorted to with varying intervals of rest. Dr. Lawrie now determined to try the hypodermic injection of a third of a grain of morphine, and this says *The Lancet*, seemed to be the determining antidote, for in an hour the pulse improved, the breathing gradually resumed its normal standard, and consciousness returned. Since it was seven hours at least before the "determining" antidote had its effect its specific action may be questioned.

The Doctor Victorious.—A suit for malpractice was brought against Dr. McKinnon, of Selma, Ala., about a year ago, the case being one of fracture. A verdict was promptly rendered in favor of the defendant.

Next International Congress of Hygiene. — The Lord Mayor of London issued invitations for a public meeting at the Mansion House on July 3d, on behalf of the International Hygienic Congress, which will be held next year in London. Similar congresses have been held in different continental cities, the last at Vienna, under the presidency of the late Crown Prince of Austria. Already the Universities, the Colleges of Physicians and Surgeons, and the various learned societies have appointed delegates, and a large representative committee is being formed for making the necessary arrangements. The Congress itself will be presided over by the Prince of Wales. We sincerely trust that the Lord Mayor will be well supported, and that every effort will be made to give a cordial welcome to the many distinguished foreigners who will attend on the occasion if the Congress is held.

The International Medical Congress.—Besides the deputation of French military doctors, a deputation of three eminent men of science, appointed by the Minister of Public Instruction, will take part in the International Medical Congress in Berlin. Their names are Professors Léon le Fort, Bouchard, and Charles Richet. Professor le Fort's name is a specially honored one in Germany, for he has repeatedly defended the German surgeons from the unjust accusation that they neglected the wounded French prisoners of 1870–71, and has at all times followed the progress of medical science in Germany with warm sympathy, and reported it to his countrymen. The official representatives of the United States at the Congress will be Mr. C. H. Alden and Major S. Billings. At the suggestion of the Committee of Organization a Ladies' Committee has been formed, whose main task it will be to make the stay in Berlin as pleasant as possible for the wives of foreign medical visitors.—*Lancet.*

The Harper Hospital Bulletin is the name of a new bi-monthly periodical published at Detroit and devoted to hospital work.

Cures for Neuralgia of the Head.—An English physician has recently asserted that headaches and neuralgia could be stopped by blowing a solution of salt up the nose. A Swiss physician, Dr. Naegely asserts that he can cure neuralgia of the trigeminus by pressing up the hyoid bone.

A New Hospital for Berlin.—At a meeting of the Berlin Municipal Council on June 12th, it was decided that a convalescent home for lying-in women should be established at the expense of the city. A sum of $35,000 was voted for the purpose.

The Increase of Insanity in Berlin has made it necessary that a new public lunatic asylum should be established. The building, which is to accommodate one thousand patients, will be situated in the easterly suburb of Lichtenberg. The City of Berlin already maintains an asylum with about twelve hundred inmates at Dalldorf.

The University Medical College of this City and the Bellevue Hospital Medical College announce that, beginning with 1891–99, three courses of lectures will be required for graduation.

Latin should be Used.—The *Provincial Medical Journal* agrees with us in regarding Latin as the only language which can be adopted as the universal medium of communication in scientific assemblies. The question of a universal language of science has, it says, been frequently discussed, and it will probably be ventilated again at the Congress. French is the language of diplomacy, and the French therefore urge their claim to have French chosen as the medium of communication between the learned men of different countries. We can hardly expect the Germans to accept this proposition. English has a claim for some consideration; but France and other foreign countries will put their veto upon our claim. Volapük has now a strong following, and this strange amalgamation of tongues offers itself as the solution of a difficulty. Considering the difficulties of the new language, we can hardly favor its pretensions. If we really require a special tongue for science, we should fall back upon the Latin. We have here a language with a history and a literature, and if it could be established that Latin was to be in the future the means of communication between learned men, then Latin would be taught in the schools of the world in a much more rational way than it is at present, and still more those who intend to enter the medical profession would have to acquire a much wider acquaintance with its literature than is expressed by the first two books of Virgil or Cæsar, which represents at matriculation the acquaintance of the candidate with the *literæ humaniores.*

Small Infants.—Dr. Cordes, of Geneva, writes to the *Lancet* that a case of twins occurred in 1858 among his own relatives, one of which weighed only six hundred and twenty-five grammes (25 oz.), the other weighing just twice as much. No couveuse was employed, but both are now living.

A Doctors' Club is to be established in Oshkosh, Wis. There will be meetings at stated intervals for the discussion of medical questions, but in addition a club-house will be built where the members can come together informally at any time and meet each other socially.

Testing the Legality of Vivisection.—Two Philadelphia physicians were recently arrested on a charge of cruelty to animals, the charge being based upon the fact that they were in the habit of practising vivisection on dogs in the course of their experiments.

Codein.—According to Lowenmeyer (*Deutsche medicinische Wochenschrift*, No. 20, 1890), codein is very little employed in Germany, notwithstanding the encomiums which it receives from physicians elsewhere and especially from the French. He therefore recently instituted an extensive series of observations in Jacobson's service at the Jewish Hospital in Berlin. Some five thousand doses of the drug were given to about four hundred patients, some of whom took it for weeks, and others for months; yet in no case did he observe any untoward results. He therefore recommends its use in place of morphine, rating it as a narcotic of somewhat lesser intensity than the latter, but on the whole superior, because of its freedom from danger. He especially endorses Dr. Lauder Brunton's assertion of the peculiar applicability of codein to the relief of painful affections of the abdomen. Gastralgia, colic, and the various visceral neuralgias seemed peculiarly amenable to its influence.—*Medical News.*

Local Tuberculous Infection.—An accident which recently befell Dr. Gutzmann, of Berlin, may serve as a warning to surgeons and pathologists to be careful in handling tuberculous tissues. On February 19th, while he was making a post-mortem examination on a patient who had died of acute miliary tuberculosis, the nail of his right middle finger was slightly raised from the matrix. He felt a little pricking at the tip of the finger, but could see no wound. After washing it in sublimate solution and alcohol, he forgot all about it, and used the finger in percussion without inconvenience. On March 20th it again became painful, and a tiny abscess was found under the nail. This was opened and the pus examined by Ehrlich's method, when three tubercle bacilli were discovered. The preparation was shown to several practitioners, who all identified the bacilli. The abscess was then scraped out and disinfected with alcohol. Up to the present there has been no lymphangitis or glandular enlargement, and no rise of temperature. Dr. Gutzmann regards the case as an example of local tuberculous infection.—*British Medical Journal.*

Thyroid Grafting in Myxœdema.—Mr. Horsley's suggestion that myxœdema might be treated by transplantation of a piece of thyroid gland from an animal to the human subject has lately been carried into effect by Professor Lannelongue, of Paris. The patient, a female cretinoid idiot, aged fourteen, presenting the usual signs of myxœdema, had a piece of the thyroid gland of a sheep implanted into the subcutaneous tissue of the left side of the chest. The wound closed over the graft, but sufficient time has not yet elapsed to allow a judgment to be formed as to the results of the operation on the constitutional condition.—*British Medical Journal.*

Bismarck's Regimen.—The details of Prince Bismarck's present dietetic regimen, says the *British Medical Journal*, may be interesting to those interested in the treatment of obesity. He says: "I am only allowed to drink thrice a day—a quarter of an hour after each meal, and each time not more than half a bottle of red sparkling Moselle, of a very light and dry character. Burgundy and beer, both of which I am extremely fond, are strictly forbidden to me; so are all the strong Rhenish and Spanish wines, and even claret. For some years past I have been a total abstainer from all these generous liquors, much to the advantage of my health and my 'condition,' in the sporting sense of the word. Formerly I used to weigh over seventeen stone. By observing this regimen I brought myself down to under fourteen, and without any loss of strength—indeed, with gain. My normal weight now is one hundred and eighty-five pounds. I am weighed once a day, by my doctor's orders, and any excess of that figure I at once set to work to get rid of, by exercise and special regimen. I ride a good deal, as well as walk. Cigar-smoking I have given up altogether; it is debilitating and bad for the nerves. I am restricted to a long pipe, happily with a deep bowl, one after each meal, and I smoke nothing in it but Dutch Knaster tobacco, which is light, mild, and soothing. Water makes me fat, so I must not drink it. However, the present arrangements suit me very well."

A New Mixture for Use in Local Anæsthesia.—Dr. A. Dobisch, of Zwittau, has used, for the purpose of producing local anæsthesia, a spray, with Dr. Richardson's ether spray apparatus, composed of ten parts of chloroform, fifteen parts of sulphuric ether, and one part of menthol. After one minute's application of this spray complete anæsthesia of the skin and neighboring tissues were obtained, which lasted for from two to six minutes, and sufficed for the performance of such minor operations as opening abscesses of the cervical glands, incising a deeply seated whitlow, and the excision of an epithelioma of the nose. In all the cases in which he employed the spray above mentioned the wounds healed quite satisfactorily.—*The Lancet.*

No Hospital for Infectious Diseases in Chicago.—Chicago is to have the World's Fair. It has over a million population; its streets are 1,386 miles long, and its street-car lines 637 miles long. Its parks cover 2,038 acres, and 850 trains arrive and depart daily; yet there is not a hospital in the metropolis where a case of diphtheria or scarlet fever can be taken.—*N. A. Practitioner.*

The Medical Department of the Newberry Library, of Chicago, has fairly begun its existence. It has on its shelves two thousand volumes donated by the Medical Library Association, and is preparing to order a large invoice of the principal medical serials. Adjoining this department the trustees have provided a large room which they will probably offer for society meetings.—*N. A. Practitioner.*

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON THEORY AND PRACTICE OF MEDICINE.

Stated Meeting, May 20, 1890.

FRANCIS DELAFIELD, M.D., CHAIRMAN.

The After-treatment of Obstetric Cases.—DR. W. B. WOOD read a paper on this subject. At the outset he said that he laid no claim for originality in the views that he was about to express, but at the same time the method of treatment which he advocated differed sufficiently from that commonly adopted, he thought, to render what he had to say of some interest.

For some years past it had been a matter of observation to him that the number of cases of laceration of the cervix was really much greater than would appear from any statistics that had ever been published on the subject. In fact, he now believed that at least slight laceration of the cervix takes place in every woman who is delivered of a child. The reason why many of the cases escaped notice was because nature acted so promptly and efficiently, that the slighter degrees of laceration were repaired before the time came when the accoucheur ordinarily made his examination of the parts.

During the past five years he had worked on the theory that, if the slight forms of laceration were so ready to heal without any attention on the part of the physician, the severer ones would spontaneously heal in the same kind manner if the proper conditions for the accomplishment of this purpose were afforded. Omitting the histories of certain illustrative cases which he had selected from his practice, he went on to say that in his hands not only in no case had a fresh laceration remained unhealed, but in many older cases successful repair had taken place without any operative interference whatever. The importance of the method in question in preventing permanent trouble could be readily appreciated.

The best skill could not prevent, but could only modify and control, laceration of the cervix. It had often been alleged that there was no more reason why parturition should be attended by such accidents, than was the case among savage tribes; but such a statement was absurd. The fact that was pertinent to the question at issue, and that was quite sufficient to explain the results commonly met with, was that, as civilization advances, the cranium increases in size, while the pelvic diameters diminish.

Outside of laceration of the cervix, there was no other condition following parturition which occasioned so much trouble as arrested involution. Five years' experience in the matter, however, had convinced him that this would yield to the same treatment. According to the best authorities, it required from six to ten weeks for the uterus to return to its normal size and weight, and from three to four weeks for the vagina, and from six to twelve weeks for the relaxed uterine ligaments and appendages to resume their normal condition after confinement. Yet ordinarily it was in the second week, while involution was still far from completion, and any lacerations that might have been caused during labor were still unhealed, that the woman was allowed to get up and go about. In consequence, the uterus dropped downward and tipped out of its normal position; and under these circumstances it was not to be wondered at that the health of the patient became permanently impaired. The evils resulting had been admirably summed up by Emmett in his work on "Diseases of Women."

From his observations, he was firmly convinced that these evil results could be avoided by the observance of proper precautions both before and after the puerperal period. Before her confinement the patient should be educated up to a right appreciation of the dangers that were liable to result therefrom, and of the appropriate means for escaping them. It was a fact that, up to the present time, the human uterus had never become thoroughly adjusted to the upright position, and that it could be said to be perfectly held in place only when the woman was in the genu-pectoral posture, or that of the quadruped. Under the most favorable circumstances it could be readily seen, therefore, how easy it was for the organ to slip out of position.

The treatment which he practised and advocated after ordinary labor was as follows: He kept the patient in bed for four weeks, and during fourteen to twenty-one days of this time she was to be kept strictly on her back. At the end of twenty-one days he made an examination, the patient being placed in the Sims position. Then hot vaginal injections were employed, after the manner of Emmett, if no lacerations were found to remain. If there were any lacerations, the injections were to be omitted, as tending to interfere with the healing process. At the end of four weeks, if there were no abnormal conditions present, the patient was permitted to get out of bed; but before she did so she was placed in the genu-pectoral position and the uterus was carefully supported, before and behind, by pads made of cotton saturated with borated glycerine. The supporting pads, renewed at sufficiently frequent intervals, were to be worn for five weeks more. Finally, the physician was to make an examination of the patient once a month for a year following her confinement, in order to see that no displacement of the uterus or other abnormal condition had resulted.

In hospital and charity work such a course was impracticable; but in private practice it should be insisted on, and it would readily be consented to by the patient if she were properly educated up to it. There were few women to be found who would not willingly submit to any course of treatment which would relieve them from the necessity of an operation; and if, in the case of any patient suffering from a laceration of the cervix resulting from a former labor, it was represented to her that, with the observance of proper care after her next confinement, the trouble could be obviated without a resort to operative measures, the chances were that she would most cheerfully consent to the treatment prescribed.

Dr. Wood then referred to the matter of lactation, and said that while nursing undoubtedly furnished a favorable stimulus to the uterus while undergoing involution, in many cases the advantages arising from this were more than counterbalanced by the evil effects of the drain upon the general system caused by it; and hence, in order that the woman might be afforded the most satisfactory conditions for a complete restoration to health after her confinement, it was often necessary that the infant should be weaned at an early period. With our present improved facilities for artificial feeding, this was attended with much less risk to the child than was formerly the case.

In conclusion he said that within the past years the advances made in obstetrics and gynecology had resulted in an appreciable decrease in mortality from childbirth, as regards both the mother and the child; and it only remained that we should adopt an after-treatment in cases of midwifery which would prevent subinvolution and permanent lacerations.

The Gross Anatomy of Chronic Pulmonary Consumption in Relation to Diagnosis and Prognosis.—DR. J. WEST ROOSEVELT read a paper on this subject. He said that the great importance of making an early diagnosis and correct prognosis in phthisis was his only excuse for presenting this paper. While the evidence of the existence of tuberculosis afforded by the discovery of the Koch bacillus in the sputa was naturally absolutely unassailable, the absence of the bacteria must always leave a doubt in the mind as to the presence of the disease. There were so many important precautions to be observed, however, before the absence of bacilli could really be held to exclude consumption, that it was necessary to be very careful in estimating the value of negative observations.

To exclude consumption by negative results in searching for bacilli it was necessary, first, that the examination be made by an expert with a good microscope and good dyes; second, that a sufficient quantity of sputum be obtained; and, third, that a very large number of observations, extending over a considerable time, be made. By the term expert he meant a person trained by long practice to make the observations. In all cases of suspected tuberculosis, however, the element of time was a very important one, and it would not do to waste too much valuable time in examining the sputa. It was always to be remembered that it was not the bacilli in the sputa, but those remaining in the lungs, that were to be feared; and hence we should not give the latter a good chance to increase while we were looking for the former.

Having dwelt upon some of the points required for accuracy in making examinations of sputa, he said that it was natural that the results of the labors of both Laënnec and Koch should have been misjudged, especially in respect to their value as negative evidence. In each case their value as positive evidence had been enormous; the bacillus, so far as we know, affording absolute proof. Positive evidence was naturally that first sought. In the case of almost all important additions to scientific knowledge, the first general idea, after accepting the facts, was to see what they positively prove to exist. Long after this came the question of what they do not demonstrate; and of both Laënnec and Koch's discoveries it might be said, that their value of positive evidence was so great that their importance in excluding disease had been overestimated.

He next spoke of the clinical classification of cases based upon the gross anatomy of the lesions. In the present study, he said, we had nothing to do with the finer details of pathological anatomy. In order to understand his point of view, however, it was necessary to admit the following things:

1. The discovery of tubercle bacilli in sputum furnishes positive evidence of consumption, or of tuberculosis somewhere in the air-passages.

2. Chronic consumption of the lungs occurs sometimes in a form in which the lesions consist of more or less distantly separated small nodules, and sometimes in a form in which there is more or less widespread solidification of the lung. In either of these forms cavities may be found. In both the lesion first invades, in a large majority of cases, the apices of the lungs.

The anatomical classification thus adopted was of importance mainly for diagnostic and prognostic purposes, and did not pretend to histological accuracy. The first variety, the discrete, embraced those cases which Delafield had placed in the first division of the class designated by him as chronic miliary tuberculosis. It also embraced certain cases belonging to Delafield's second subdivision of chronic miliary tuberculosis, in which, besides tuberculosis, there is new fibrous tissue. In short, it was intended to mean any form of consumption in which the lesion is discrete and does not produce much solidification.

The second variety, the diffuse, for the purpose in hand, included all cases in which the lesion is such as to solidify considerable portions of the lung in mass. Certain cases of Delafield's second division of chronic miliary tuberculosis were for convenience embraced in it, just as certain lesions much more complex than simple tubercular inflammation were embraced in the discrete form.

The discrete form was very often observed, at least in New York. In it the nodules, varying in size, were separated by lung-tissue which was physically normal or emphysematous. When cavities resulted, in advanced cases, from the breaking down of the nodules, they were usually of small size; and solidification of a portion of the lung, resulting from the increasing number of nodules, occurred only late in the course of the disease. There were usually more or less bronchitis and pleurisy, and also some emphysema of the kind known as compensatory. He believed that dilatation of the air-vesicles and passages was caused by mechanical air distention, and it seemed very probable that the elasticity of a larger or smaller part of the pulmonary parenchyma was destroyed by the growth of new tissue, if the thoracic expansion caused a negative pressure in the parts not affected which was greater than normal. The fact that emphysema was frequently limited to those portions of the lung near the nodules was explained by the pleural adhesions, which caused that part to follow closely the movement of the nearest rib. A probable additional cause for the emphysema was obstruction to the circulation produced by the nodules. In certain cases, moreover, the tubercular process took place in lungs already emphysematous.

In the diffuse form the important clinical facts were, that consolidation occurred and produced, at a much earlier stage than in the discrete form, recognized physical signs, and that, in at least a large number of cases, the physical signs corresponded pretty closely to the patient's actual condition. The consolidation always, in his opinion, accompanied tubercular deposit, and the latter was always, as he also believed, the result of the growth of Koch's bacilli. The consolidated tissue consisted sometimes entirely of dense connective tissue. Sometimes patches of coagulation necrosis, diffuse tubercle, interstitial pneumonia, broncho-pneumonia, and peribronchitis were mixed in varying proportions in it. With this, as with the discrete form, there were usually bronchitis and pleurisy.

The clinical value of the classification temporarily adopted was, that it recognizes the existence of cases in which the physical signs have no relation to the extent of the lesion—cases, moreover, in which the bacillus is very likely not to be found at an early date in the sputa. Having further explained the reasons for the latter circumstance, he said that the discrete form furnished cases which were liable to be mistaken for primary tubercular disease of the larynx, for broncho-pneumonia, or for substantive emphysema. It has been Dr. Roosevelt's observation that in every case properly examined the tubercle bacillus has sooner or later been found; but in the meanwhile the diagnosis has often remained in doubt, and the discovery of the true nature of the disease has not infrequently come too late.

In the diffuse form, on the other hand, not only were the physical signs generally well marked, but the bacilli are apt to appear in the sputa at an earlier date, and also to be more abundant from the first.

Having described a supposititious case in which the physical signs were doubtful and the sputum scanty or absent, so that the bacilli were discharged in small numbers, if at all, he said that such cases were not rare, and the recognition of this fact seemed to emphasize what was probably the most important fact in connection with early diagnosis, viz.: Both physical signs and the negative evidence of the microscope are to be regarded only after careful study of the clinical history. Percussion, auscultation, and the microscopic examination might reveal nothing, yet commencing consumption might be safely assumed to exist from the evidence of the patient's history and general appearance.

The idea which he wished to convey was that cases may occur, and that not infrequently, in which tubercle bacilli cannot be discovered, and in which physical examination of the chest gives no abnormal signs, or very vague ones, yet in which it is the duty of the physician to make the diagnosis of consumption and to take proper measures for treatment, no matter at what cost. In the class of cases under consideration the chances of consumption being the trouble were so strong, that the physician should risk his own reputation and perhaps put the patient to great inconvenience and pecuniary loss, in order to save the life of the latter.

In speaking of the relation of the anatomical conditions to the physical signs, he said that in the discrete lesion there

might at first be nothing abnormal about the lungs, except a few small scattered nodules at or near one apex. In the great majority of cases, however, pleural adhesions existed from a very early period. With the few scattered nodules alone there would, as a rule, either be no physical signs, or these would be very vague and untrustworthy. The pressure of pleural adhesions sometimes gave rise to special signs, and sometimes did not. In certain cases it seemed quite possible that they cannot show so-called cog-wheel or wavy inspiration; and in others they might perhaps produce fine dry or moist râles. Sometimes also they seemed to produce friction, stretching, or tearing sounds. In early cases the adhesions were so often near the summit of the lung (where relatively little gliding motion of the pleura took place), that it was easy to understand how frequently it was impossible to demonstrate their existence during life.

It was not clear to him, however, why many signs attributed by a number of observers to pleuritic adhesions should really be caused by them. Why, for instance, the type of subcrepitant râle, sounding like the bursting of fine bubbles, should ever be produced by the stretching of tissue, moist or dry, it was difficult to explain. It was easy to say, and it at first seemed plausible, that an increase of serum in the pleural adhesions would produce this sound; but we did not positively know that this condition ever did actually give rise to it.

Having spoken of the mechanical results of pleural adhesions, so far as the lung and chest movements were concerned, he said that in spite of very widely distributed and firm adhesions, it was possible for a lung seemingly to do its work as well as usual, and no symptoms whatever might indicate firm union between the pleural surfaces over the entire lung.

If, in addition to the nodules, there was enough bronchitis signs of this alone might be found. Signs of bronchitis with or without emphysema, upon one side of the chest, could as a rule be regarded as valuable evidence of consumption, since bronchitis confined to one side probably never occurred unless there was some local cause.

When the nodules became sufficiently numerous to crowd one another pretty closely, the lung was practically solidified, and the signs became those of consolidation. In such instances, however, the disease was far advanced. It was evident that in this form the physical signs bore but little relation to the extent of the lesion. The diagnosis in early cases must be made without too much regard for the signs, and the same was true of the prognosis also. In the absence of bacilli from the sputa the patient's general condition and history must be the main guide.

Discussion.—Dr. J. S. Ely said that some months ago, a woman of thirty-five presented herself at the Roosevelt Dispensary, who complained of general weakness and loss of flesh and appetite. There was but little cough, and an examination of the chest was negative in its results. There was no harsh breathing, and practically nothing was heard in the lungs except an occasional râle. From the progressive emaciation and the general appearance of the patient he concluded that she was suffering from chronic miliary tuberculosis. She was placed upon creasote and cod-liver oil, and urged to go to the Adirondacks if it were possible for her to do so. It was impossible for her to leave New York, however, and she came regularly to the dispensary through the winter. She gained considerable in strength, and about a pound a week in flesh. About six weeks ago she was attacked with a severe pain in the left eye. Dr. Ely made an ophthalmoscopic examination, but not being able to discover anything abnormal, he sent her to Dr. Weeks, who reported that far down in the edge of the retina there were five miliary tubercles. He was very glad thus to have the diagnosis which he had made confirmed.

It seemed to him that the early diagnosis of tubercular disease of the lungs had come to assume a specially important aspect, in view of the now very generally recognized fact that many cases could be cured if they were taken in time. It was often said that Koch's discovery had added nothing to our knowledge of the treatment of phthisis; but there could be no possible doubt that it had already been of great practical service. The results of the experiments made by Dr. Trudeau on rabbits, he thought, were of the greatest possible value in this connection. While all the rabbits inoculated with tubercular virus which were confined in an unhealthy environment died, only one of the inoculated animals—six or eight in number—which were given the best possible environment died. An examination of the lungs of the rabbits which recovered showed that the tubercles had become encapsulated, and were thus rendered incapable of doing any further harm. In the light of such results it could readily be seen that it was of vital importance that we should be able to recognize the presence of the disease at the earliest possible moment.

Dr. F. W. Jackson said that while in some cases we had to make the diagnosis without the aid of physical signs, in others, on the contrary, the diagnosis was made on the physical signs alone, in the absence of any symptoms to guide us. A case in point was that of a young woman, twenty-two years of age, who came to the Roosevelt Dispensary on account of some of those vague feelings so common in females, and who was to all appearances in more than ordinarily robust health. Yet when he came to examine her chest (not because there was anything to direct attention to the lungs, but simply in accordance with the routine practice at the dispensary), he found to his great surprise that there was a cavity at the apex of one of the lungs. On inquiry he ascertained that there was no antecedent history pointing to anything but tuberculosis as the cause of the cavity. Afterward the patient's health gradually broke down, and the other lung became involved also. Here, then, was a case in direct contrast to that related by Dr. Ely; there being nothing but the physical signs to go by.

His observations had led him to believe that pleural adhesions were very frequently present without giving rise to any physical signs, and he thought this was not generally recognized. Another point not sufficiently appreciated, to which he desired to direct attention, was the fact that râles, due to whatever cause, were not constant. Thus, they might disappear and reappear while the patient was actually under examination. Two lessons might be drawn from this circumstance. In the first place, it should teach us charity to our neighbors, as it would explain the reason why a râle heard by one auscultator often could not be detected by another. In the second place, we might learn from it that a single examination was not sufficient to furnish a clear diagnosis.

Dr. E. V. Agramonte said that he regretted that Dr. Roosevelt had not said more about the subject of prognosis, since there were a considerable number of cases of phthisis which seemed to recover.

Dr. Roosevelt said that he had been obliged to omit a portion of his paper relating to the matter of prognosis. While the statement made by Dr. Flint some years ago, that about fifty per cent. of all cases of phthisis recover, was no doubt strictly true, he thought it had been the production of considerable harm by encouraging physicians to take a more favorable view of phthisis in general than they ought. The statement was based on the fact that so many cases of cured tuberculosis were found in the dead-house; but it was to be remembered that such an estimate would by no means apply to the consumptive patients who came to us for treatment.

Demonstration of a New Method of Obtaining Small Quantities of Stomach Contents for Diagnostic Purposes.—Dr. Max Einhorn read a paper on this subject (see p. 63).

Pilocarpin is recommended by Dr. Hochzeit in chronic rheumatism.

ONTARIO MEDICAL ASSOCIATION.

Tenth Annual Meeting, held at Toronto, Wednesday and Thursday, June 11 and 12, 1890.

(Reported by Our Canadian Correspondent).

J. A. TEMPLE, M.D., PRESIDENT, IN THE CHAIR.

THE Tenth Annual Meeting of the Ontario Medical Association, was held in the Medical Council Hall, Toronto. There was a large attendance of medical men from every part of the Province, with several visitors from the United States, including Dr. T. A. Emmett and Dr. Andrew Smith, of New York, and others.

Diagnosis and Local Treatment of Tubercle, or So-called Phthisis of the Larynx.—After the transaction of preliminary business, DR. C. TROW, of Toronto, presented a paper on the above subject.

After carefully enumerating the various methods of local treatment a number of interesting cases were reported illustrating the importance of persistence in treatment with favorable prospects of success.

DR. JENNER, of Kingsville, read notes of two cases, "Morton's Method in Spina Bifida," and "Poisoning by Antifibrine." These subjects were discussed by Dr. Groves, of Fergus, Dr. Freeman, of Buffalo, and Dr. Butt, of Paris.

The President's Address.—DR. J. A. TEMPLE, after thanking the Association for the honor conferred upon him, paid fitting tribute to several active members of the Association who had died during the year. Regarding the resolution that was passed last year to memorialize the Dominion Government that all surgical instruments should be admitted free of duty, he explained what action had been taken, but regretted to have to report that their efforts to secure this much-desired reform had so far been fruitless.

Medical Registration.—No change had taken place during the past year in reference to medical registration, between the medical authorities of this Province and those of Great Britain. This, he considered, was to be regretted, for he held that in no country, not even in England, was a higher standard of medical education required of students than in the Province of Ontario. He hoped the time would come when they would have reciprocity in medical practitioners. The Medical Council of Ontario was quite willing to register English practitioners in this country, providing that a similar privilege of registration in England was accorded to Canadians. It was a matter of regret that an agreement of this kind had so far not been arrived at. The English authorities, while fully recognizing the high standard of our examinations, were not willing to place those who had passed our licensing board in the English register. They offered to place them on a colonial register, an offer which was justly declined, for acceptance of such would place our graduates on the plane of inferiority. While we could not well agree to reciprocity on other than an equal footing, yet he hoped that a way out of the present difficulty might be found. The fact that for every Canadian who desired to register and practise in England there would probably be five or more English practitioners who would desire to register and practise in Canada made it evident that the English graduates had more to gain through a satisfactory settlement of the question than had their Canadian fellows to lose.

Uniform Medical License.—He entered a strong plea in favor of securing a uniform medical license for the whole Dominion, as it bordered on the ridiculous that a man, who had passed the prescribed examinations of the Ontario Medical Council should be obliged to pass examinations before the Medical Councils of the other provinces of the Dominion if he wished to practise in another province. The habit of medical men attending lodges and clubs for an annual fee he deprecated as being an injury to the profession, and regretted that the custom was becoming more widespread every day. These methods lowered the standard of the profession in the eyes of the public. Those who indulged in these practices did themselves a great injustice, for a uniform standard of fees should be maintained.

Dr. Temple then referred to the history of the Association, and noted with admiration its great progress and the interest shown in its meetings by the large attendance and the amount of scientific work done at each gathering.

He said: "The character and honor of the profession is in our own hands, individually as well as collectively, and just in proportion as we strive to raise it in public estimation will be the measure of our success."

The Standard of Education required of medical candidates had made rapid progress during the past two decades, and the president hoped to see the day when all medical and law students would be obliged to take a university degree before entering on their purely professional studies. One reason why more medical men did not contribute to the medical press was that they found themselves weak in the ground-work, a fact that clearly demonstrated the importance of insisting that every student before entering the study of medicine should have a liberal education. Great progress had been made in clinical education, and thanks to the beneficence of some wealthy persons students now had in the Province of Ontario superior opportunities in the wards of our hospitals. Another good work performed by this Association had been to impress members of the profession that their duty was not only to cure, but also to prevent disease.

The promotion of public health was carefully considered and the appointment of medical health officers in every municipality in the province had been followed with pleasing and satisfactory results.

Actions for Malpractice.—Dr. Temple expressed the hope that the session would not close without appointing a committee to memorialize Parliament to have the law so amended, if possible, that in all suits for malpractice security for costs to the defendant shall be given. It was, he said, a scandalous thing that in such suits they should be obliged to pay not only their own costs but the costs of the other side. To render keener the injustice it was notorious that in many instances where these actions were brought the services of the physician had been given gratuitously because the patient was too poor to pay for them.

Etiology of Puerperal Fever.—He closed his address by referring to the etiology of the so-called puerperal fever and the best method of preventing rather than of curing this dread complaint. After alluding to the various causes and conditions that might give rise to the disease he urged the importance of attending carefully to all the preparations and details at the time of delivery. The surroundings of the patient and the thoroughly aseptic character of everything brought in contact with her must be carefully considered.

After reviewing the different methods of treatment of the disease Dr. Temple concluded his interesting address as follows:

"I wish to express my thanks to those members of the various committees who have kindly aided me in the discharge of my duties, and I particularly wish to thank our efficient secretary for his uniformly kind attention and prompt and efficient discharge of his duties."

A hearty vote of thanks was tendered to the president for his able and interesting address.

DR. T. A. EMMETT, of New York, received a hearty greeting on being introduced to the Association. He read an instructive paper on "Lacerations of the Cervix Uteri and the Indications for its Restoration."

In an interesting address Dr. Emmett gave a history of the operation which bears his name. After carefully describing the conditions calling for treatment, and referring to those cases for which no operation is required, he entered into an extended review, clearly outlining the various steps and considering the most improved methods of the operation. An interesting discussion followed.

The Association then divided into sections.

Medical Section.—Dr. Chas. Sheard, of Toronto, was elected chairman and the following papers were read: "Duodenal Ulcer," by Dr. J. H. Duncan, of Chatham, Ont.; "Arthritic Hæmoptysis," by A. McPhedran, of Toronto; "The Vomiting of Pregnancy and its Treatment," by Dr. W. Irving, of Kirkton; "Paroxysmal Hæmaturia," by Dr. H. J. Saunders, of Kingston.

Surgical Section.—Dr. W. Burt, of Paris, was elected chairman and the following papers were read and freely discussed: "Traumatic Tetanus and its Treatment," by Dr. T. R. Dupuis, of Kingston; "Remarks on the Management of Talipes," by Dr. B. E. Mackenzie, of Toronto; "A case of Convergent Strabismus with Crossed Diplopia," by Dr. A. B. Osbourne, of Hamilton; "Scrotal Tumors," by Dr. A. B. Welford, of Woodstock.

Hernia.—At the evening meeting, Hon. Dr. Sullivan, of Kingston, opened the discussion in surgery by reading a paper on "Hernia," reciting in detail the latest methods for its radical cure. The discussion of the subject was continued by Dr. Grassett, of Toronto, and Dr. Waugh, of London.

This was followed by an instructive paper by Dr. Andrew Smith, of New York, on "Empyæma, with the Mechanical Results of Opening the Thorax." He illustrated his remarks with the appliances recommended by him in the treatment of such cases.

Dr. G. M. Aylesworth, of Collingwood, opened the discussion in medicine, having for his subject, "A Plea for a More Liberal and Scientific Investigation on the Part of the Regular or Rational School of Medicine." This was an interesting paper and provoked an instructive discussion with which the first day's proceedings closed.

The Association first assembled in sections on the second day.

Surgical Section.—Dr. Groves, of Fergus, read a paper on "Perityphlitic and Pelvic Abscesses," and Dr. J. F. W. Ross, of Toronto, another on "Some Cases of Extra and Intra-peritoneal Inflammation—a Plea for the Operative Treatment of Peritonitis." The two subjects, being intimately related to each other, were discussed together. Dr. Grove's remarks were of a general character, dealing with inflammatory attacks in their widest sense and concluded by a review of the treatment, instancing the importance of early operation as soon as the symptoms called for surgical interference. Dr. Ross dwelt on the fact that many cases of loss of life resulted from the reluctance of many medical men to operate at the proper time. Too many adhere to the medical treatment of the patient in peritonitis and when too late agree to an operation. He strongly recommended that in all such cases, which were now quite common on account of persons taking part in sudden, violent exercise, the seat of the trouble should be reached and relieved by the surgeon, through whose skill much might be done to lessen the high mortality in peritonitis.

The president, Dr. Temple, and several others took part in the interesting discussion which followed.

Dr. C. M. Smith, of Orangeville, presented a paper on "Ruptured Peroneum," and Dr. J. Wishart, of London, read a paper on "Abdominal Nephrectomy for Hydronephrosis," and submitted an interesting report of two operations. Dr. H. Howett, of Guelph, submitted a report of a case of "Acute Suppuration of the Knee-joint with Complete Restoration of Function." Dr. A. B. Atherton, of Toronto, read notes of a case of "Hysterectomy for Fibro-cystic Tumor," and exhibited the patient and the tumor to the section. Dr. F. W. Strange, of Toronto, continued the discussion.

Medical Section.—Dr. J. L. Addison, of St. George, presented a paper on "The Treatment of Pneumonia." He mentioned that during the past year this disease had been more prevalent and fatal in Canada than usual. Primary pneumonia, although admitted to be a self-limiting disease, should have judicious treatment. The first essential in treatment was rest in bed in a well-ventilated room, and absolute freedom from all worry and excitement. Good nutritious food in a fluid or semi-fluid state should be freely given. The chest should be protected with a layer of cotton batting. After enumerating the remedies commonly employed in the treatment of an ordinary case of pneumonia he made reference to the several complications which might arise, such as pleurisy, hyperpyrexia, delirium, coma, jaundice, diarrhœa, malaria, and abscess of the lung, and the treatment suitable for each. Secondary pneumonia was most frequently met with in, or as a complication of, influenza, measles, whooping-cough, or typhoid fever, and might require more energetic treatment. His experience had taught him to prefer the expectant plan of treatment, sustaining the vital powers, watching complications, and treating them as they arise, making every case a special study. Opium, if used at all, must be used with caution. Digitalis in moderate doses as a heart tonic with free stimulation for heart failure had been very satisfactory in his cases. An excellent discussion followed the reading of this paper.

Dr. A. Jukes Johnston, of Toronto, presented a paper on "Some Recent Treatments Recommended in Diabetes." Dr. J. L. Bray, of Chatham, read a paper on "Typhoid Fever." Dr. W. H. Moorehouse, of London, contributed a paper on, "Influenza, its Complications and Sequelæ," and gave an interesting sketch of some of the phenomena connected with the recent epidemic. Instructive discussions followed the reading of each paper.

Dr. G. S. Ryerson submitted a paper on "The Ophthalmoscope in Relation to Diseases of the Nervous System." He emphasized the correspondence between the development and functions of the brain and those of the optic nerves, since these last were genetically direct and early outgrowths of the brain. It was also notable that the eye and its appendages received the whole or parts of six out of the twelve pairs of cranial nerves. These things pointed to the intimate relation that existed between the eye and the rest of the body. No other organ of the body contained so many different kinds of histological elements or textures of so high a quality as the eye, and hence the immediate participation of the eye in general and constitutional diseases. Hence the importance of examining the eye ophthalmoscopically in cases of brain diseases and suspected organic disease of the nervous system. He briefly passed in review a few of the diseases of the brain in which the ophthalmoscope might be of especial use in diagnosis. In such diseases as neuritis, where the vision was good and there were no external signs of danger, the ophthalmoscope alone would reveal the pathological condition, and it was of immense advantage in cases of insanity and atrophy. Having drawn attention to the intimate relationship between diseases of the brain and disease of the optic nerves, he proceeded to show the connection between diseases of the cord and those of the optic nerve. He drew the following conclusions from the facts he had stated in his interesting paper:

1. That diseases of the brain and spinal cord are frequently associated with ocular disturbances.
2. That serious eye trouble may be present without subjective symptoms.
3. That eye troubles often precede and give a warning of impending nerve disease.
4. That diseases of the optic nerve and retina are of great diagnostic value in nervous diseases.
5. That it is the duty of the physician to examine the eye and its muscles in all cases of nervous disease.

In the discussion which followed, Dr. Palmer and Dr. Wishart, of Toronto, earnestly advocated the study and use of the ophthalmoscope, especially since nervous diseases were becoming more and more common.

Obstetrics.—The discussion on obstetrics was opened by Dr. A. T. Carson, of Toronto, who read an interesting paper on, "The Prevention of Post-partum Hemorrhage." He said he had nothing new to offer on the subject, but dwelt with emphasis on its importance and gave

the results of his personal observation in the course of a lengthened period of practice.

Expectorants.—At the evening session the discussion on "Therapeutics," was opened by DR. J. L. DAVISON, of Toronto, who had for his subject "Expectorants." After reviewing the history of this class of remedies he unhesitatingly condemned many of the so-called cough mixtures prescribed at the present day. He freely condemned the too frequent use of opium in respiratory troubles for the purpose of "breaking up a cough."

DR. SPENCER, of Toronto, who continued the discussion, spoke of the value of preparations of tar as expectorants.

DR. T. H. GREER, of Cold Springs, presented the Report of the Committee on Public Health. Among the practical suggestions made was the necessity of determining what length of time must elapse before a diphtheria patient should be allowed to mix with the general public. Some changes were suggested in the regulations for quarantine, and the charges made last session in the Public Health Act were noted with satisfaction. The proposed establishment of a hygienic laboratory was brought before the Association in the report, but no action was taken pending a fuller discussion of the proposition. The report was ordered to be conveyed to the Chairman of the Provincial Board of Health.

The Committee on Legislation presented a report which was read by DR. G. M. AYLESWORTH, of Collingwood, and their findings were referred to the Medical Council. A discussion took place on the bad wording, as the members understood it, of the law that allowed quacks and druggists to prescribe on condition that no questions were asked as to the patient's ailments. It seems that, according to the interpretation of the law by the courts, interrogating patients, not in prescribing for them, constitutes infraction of the Ontario Medical Act. The absurdity of this is at once apparent and early application will be made for a change in the reading of this part of the Act.

The Committee on Ethics reported, through DR. BURNHAM, of Toronto, and among other things condemned the practice, not altogether yet obsolete, of medical men receiving a percentage on the amount of prescriptions sent by them to druggists. All advertising was condemned alike for specialists as well as ordinary practitioners, and a few strong words uttered against giving the slightest encouragement to those who endeavored to persuade the medical man to prostitute his noble calling by attempting malpractice in any form.

The report of the Nominating Committee was presented and recommended the following

Election of Officers.—*President*, Dr. W. H. Moorehouse, of London; *First Vice-President*, Dr. Charles Sheard, of Toronto; *Second Vice-President*, Dr. J. W. Gibson, of Belleville; *Third Vice-President*, Dr. Powell, of Ottawa; *Fourth Vice-President*, Dr. J. Wishart, of London; *General Secretary*, Dr. D. J. Gibb Wishart, of Toronto; *Assistant Secretary*, Dr. W. P. Cavan, of Toronto; *Treasurer*, Dr. E. J. Barrick, of Toronto; *Committees—On Credentials*, Drs. Sheard, of Hamilton, and Lowry, of Acton; *Public Health*, Drs. N. J. Charlton, Weston, and Farley, of Belleville; *Legislation*, Hon. Dr. Sullivan, of Kingston, and Dr. Waugh, of London; *Publication*, Dr. J. L. Davison, of Toronto, and Dr. A. Primrose, of Toronto; *By-Laws*, Drs. Griffin, Hamilton, and Carson, of Toronto; *Ethics*, Dr. A. R. Harvie, of Orillia, and Dr. J. F. W. Ross, of Toronto.

Place of meeting 1891, Toronto.

Honorary Members.—The names of the following gentlemen were added to the list of honorary members of the Association: Dr. Joseph Workman, of Toronto; Dr. T. Addis Emmett, of New York; Dr. E. M. Moore, of Rochester; Dr. William J. Mickle, of Grove Hall Asylum, London, Eng.

Dr. Charles Sheard, of Toronto, paid an eloquent tribute to the memories of the members who have died since last meeting.

The treasurer's report was presented and was highly satisfactory.

After passing several resolutions of thanks in acknowledgment of courtesies received by the Association the president-elect was conducted to the chair and the proceedings of the tenth annual meeting were brought to a close.

Correspondence.

OUR PARIS LETTER.

SPRAINS OF THE ANKLE—SUBLUXATIONS OF THE FOOT—INHERITANCE OF SYPHILITIC TREATMENT.

PARIS, June 27, 1890.

DR. RECLUS, hospital surgeon, has published a note on the manner of his proceeding, in a general way, in the treatment of sprains or subluxations of the foot. This treatment is a mixed method, founded on the employment, successively, of an elastic bandage, hot foot-baths, and massage. As soon as the sprain is produced, the region affected should be enveloped with an elastic roller, the application of which should be commenced at the roots of the toes, and it should be rolled round the foot, on to the instep and about midway up the leg; it should be tightened just sufficiently for the roller to be kept in place. When the sprain is not very severe, slight movements may be permitted. Twice a day, morning and evening, the elastic bandage should be removed to wipe and dry the parts, as under the impermeable tissue there accumulates sweat which soon decomposes, assumes an insupportable odor, and, what is more serious, irritates the integuments. Without this precaution it might provoke eczematous, and even furuncular, eruptions. It is then that the second precept of the treatment should intervene. The affected joint should be plunged into a bath the temperature of which should be progressively raised until it attains 48°, 50°, and even 55° centigrade. Under its influence the pain ceases, if the elastic bandage had not already dissipated it, the circulation is increased, and perhaps also the nutritive changes. These divers modifications have probably a great deal to do in the more rapid resorption of the peri-articular exudations. It is also to promote resorption that massage is added to the pressure of the elastic roller, and this massage constitutes the third part of this mixed treatment. The elastic roller has certainly on massage the advantage of acting in a continued manner, but it cannot, like massage, expel from the meshes which contain them the solidified clots, for which purpose the strong pressure of the finger, "petrissage," would not be too much; it much better disseminates the peri-articular infiltrations and thus prepares for the elastic bandage. After the immersion of the foot in hot water for ten or fifteen minutes, after a *séance* of massage from ten to fifteen minutes, the limb is enveloped for twelve hours in the India-rubber bandage. The author observes that the sprain must be very severe if complete cure is not obtained in less than fifteen days.

A propos of this subject, I may here reproduce a note published in the *Semaine Médicale*, by Dr. Treuthardt, of Cossonay, on a new treatment of subluxations of the foot and of fracture of the fibula, which he has practised for the last twelve months. It consists in the applications on the part affected of a paste composed of glazed clay mixed with vinegar. The consistence of this mortar should be sufficient to enable one to envelop the affected limb, and that the apparatus be kept on as well as a plaster bandage. The application is made directly on the skin, and the dressing should remain in place from twelve to eighteen hours, until the almost complete desiccation of the glazed clay is complete, when it should be renewed. The author observes that this procedure rapidly produces the disappearance, and without pain, of the effusion, however considerable. In recent subluxations and fractures of the fibula one application of the glazed clay

suffices to cause the entire disappearance of the tumefaction of the articulation in from twelve to eighteen hours. If the accident dates from several days, or the tumefaction be very considerable, two or three apparatuses applied at intervals of twelve hours will remove it. The joint is not immobilized in the apparatus, the tumefaction disappearing very quickly, and the tissues not remaining infiltrated adhesions are not organized as in immovable apparatus. After the disappearance of the tumefaction Dr. Treuthardt applies an elastic and compressive dressing, by means of cotton-wool and a flannel bandage, and recommends the patient to execute frequently, in the wounded joint, all the movements which the dressing permits. At the end of from three to five days the patient should be able to walk, and the dressing should be sufficiently reduced to permit the patient to wear a laced shoe. In cases of fractures of the fibula treated in this manner all limping disappeared in fifteen days.

At the last meeting of the Société de Dermatology et Syphilographie, Dr. Fournier read a note for Dr. Cathelineau on the presence of mercury in the viscera of a fœtus born from a syphilitic mother submitted to mercurial treatment. Dr. Fournier observed that till now the presence of mercury in the urine of new-born infants whose mothers were treated with that drug had not been discovered. The researches of Dr. Porak, relative to this point, gave only negative results. In the case under notice mercury existed in the viscera of the fœtus, as proved by the researches of Dr. Cathelineau, and in different proportions according to the organs. The following are the proportions: Liver, 0.00121 gr. for 10 grammes of matter; spleen, 0.00120 gr.; heart, 0.00106 gr.; kidneys, 0.00106 gr.; meconium, 0.00046 gr.; lungs, 0.00034 gr.; brain, 0.00031 gr.

At the last meeting of the Association d'Avancement des Sciences, Dr. Galliard brought to notice a case showing that rachitism should not be attributed to syphilis, according to the theory of Parrot. A child submitted to bad hygienic conditions became rachitic. The parents, however, were not syphilitic at the time of the child's birth, but both contracted syphilis later on. Moreover, a second child was born when the parents were in the height of syphilis; but this child, being better nourished, did not present any trace of rachitism whatever. Another child, born in the interval before the syphilis, was not rachitic. Thus there were in this family a rickety child without syphilis, a child free from the two affections, and one child syphilitic without rickets.

Dr. Abadie believes that true sympathetic ophthalmia is a microbian malady of infectious origin. This new pathogenic conception permits us to explain many peculiarities of this terrible affection which were formerly incomprehensible. Dr. Abadie explains that the eye affected by traumatism constitutes a pathogenic focus whence come the microbes, which, by the intermediary of the chiasma, invade the opposite eye. If, then, enucleation be practised before the microbes invade the optic nerve, it is efficacious and preserves the eye. If, on the contrary, one waits till the sympathetic ophthalmia is declared, enucleation alone cannot always arrest the microbian evolution in the healthy eye. Whence hesitation in intervention, some being partisans, while others are adversaries of enucleation. Instead of practising ablation of the wounded eye, Dr. Abadie advises, when sympathetic ophthalmia is declared, to cauterize with a fine galvano-cautery the wound to its full extent, turning it in all directions so as to destroy the pathogenic focus. Moreover, he injects into the wounded eye one drop of a solution of corrosive sublimate of 1 per 1,000.

The Money Loss from Influenza.—It is estimated that the loss of wages due to the influenza in London amounted to five million dollars, and a like amount was paid out in insurance and sick-dues by the different mutual aid societies.

THE RECEPTION AND TREATMENT OF THE ACUTELY INSANE IN GENERAL HOSPITALS.

To the Editor of the Medical Record

Sir: In your issue of June 28, 1890, is an article upon the above subject by Dr. W. P. Spratling, of the Morris Plains Asylum, which, although written from the standpoint of the asylum physician, who might be expected to be somewhat opposed to an apparent innovation of this character, is still marked by a commendable liberality in its dealing with the question. There are, however, some points concerning which the author has misconceptions. An instance occurs in a sentence of which the following is one clause: "So radical a change, affecting as it most assuredly would do, the character of all general hospitals into which insane cases might be admitted."

Now, it is not precisely clear to me why the character of a general hospital should be changed by the admission of patients suffering from functional disorders of the brain, some of which we call insanity. Cases with other and somewhat similar brain affections are not refused admission, like the delirium of fevers or delirium tremens. Yet the character of the hospital is not materially altered. Indeed, the question of the propriety of admitting insane persons to general hospitals does not remain to be solved by the experiment of the hospital at Victoria, for it has already been solved by the successful experience of many general hospitals during many past years.

The Vienna General Hospital has had, for a longer time than I can remember, a number of wards for the insane. Professor Meynert and his assistants are the visiting physicians in this department.

The Charité, of Berlin, has wards set apart for the insane.

The Bremen City Hospital counts among its buildings two large pavilions for the accommodation of some one hundred and fifty insane patients.

In Paris the Salpêtrière and Bicêtre, each provide wards for this class of unfortunates.

I do not, at this moment, recall the other foreign institutions similarly constituted, but it is not necessary to go so far from home to see a general hospital with proper facilities for the reception of the insane.

The Bellevue Hospital has a roomy pavilion on its limited grounds for these cases, and its construction was a great boon to New York City.

Would the doctor intimate that the character of any of these general hospitals just mentioned has been radically changed by these provisions? If so, is the change for the better or for the worse?

In the same sentence the author implies that it would be "robbing existing asylums or hospitals for the insane of the very cases the State intended these institutions should receive." This is another misconception on his part. The paragraph from the report of a committee of the New York Neurological Society which prompted the writing of his paper reads as follows:

"5. A clause should be introduced into the bill providing that nothing in the lunacy laws of the State shall be construed to interfere with the reception and treatment of acute cases of insanity in chartered general hospitals, in the same manner and under the same conditions as patients suffering from other diseases are there received and treated, provided such hospitals have suitable accommodations approved by the State Commission in Lunacy."

Such a law, if passed, instead of forcing all of the acutely insane to be sent to general hospitals would merely permit these institutions to receive the insane, if, like Bellevue or the Marshall Infirmary of Troy, they are provided with suitable accommodations. I do not see how anyone can gainsay the beneficence of such a provision, particularly in towns and cities remote from the hospitals for the insane established by the State.

Buffalo, might perhaps dispense with general hospital accommodations for the insane, for patients can be re-

moved with but little delay to a model State asylum in her very midst. This is also true of Utica and Ogdensburg and Poughkeepsie and Middletown. But what is to be done in emergency with the acutely insane of Syracuse, Rochester, Albany, and Plattsburg? Troy has partially solved the problem on her own account. When patients in Troy are not in proper condition for the journey to Utica or Poughkeepsie, or when their friends prefer a general hospital, they are placed in her Marshall Infirmary, which is another example of a general hospital with a large insane department. As regards New York City, the pauper insane may be despatched at once to the pavilion at Bellevue, by ambulance if necessary; and although under existing laws there is no legal right to receive them there without certain papers, it is done, and no one will complain, because it is so much better that they should go to a general hospital, pending the making of certificates, than to a jail or station-house. They are examined and treated while there, and often discharged as not proper cases for commitment to the asylum. The rich may be treated at their own homes for an indefinite period if it is so desired, or until they can be transferred to some private hospital for the insane, because isolated apartments, a sufficiency of nurses, and, in fact, everything requisite is at their command. But the real sufferers in New York are the middle classes, since the insane of this class cannot be sent to Bellevue, and cannot remain long at home. Bloomingdale is overcrowded, and is soon to be removed to the country. What a blessing it would be if Roosevelt Hospital should cause an insane pavilion to be constructed upon a part of its vacant area, and it some of the other metropolitan general hospitals would do likewise!

A psychopathic hospital, such as it is contemplated to build in London, is perhaps a greater desideratum for the large university cities than wards in general hospitals, not only for the purpose of securing the best treatment and the deepest scientific study of the insane, but also for the more thorough instruction of medical students in morbid psychology. But like that of receiving and treating the insane in general hospitals, the conception of a psycopathic hospital is neither novel nor unique, for the Psychiatrische Klinik of Leipzig, under the supervision of Professor Flechsig, and that at Strassburg, in charge of Professor Jolly, are psycopathic hospitals of a number of years' standing, embodying all that is best in Germany with regard to plan of construction, internal management, treatment of patients, the physiological and pathological study of the central nervous system, and the instruction of students in psychological medicine.

FREDERICK PETERSON.
201 WEST FIFTY-FOURTH STREET.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 7 to July 12, 1890.

BALL, ROBERT R., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Riley, Kan., and will report in person to the commanding officer at Fort Spokane, Wash., for duty. Par. 7, S. O. 151, A. G. O., Washington, D. C., June 28, 1890.

KIMBALL, JAMES P., Major and Surgeon. By direction of the Acting Secretary of War, leave of absence for four months is granted, to take effect when an officer of the Medical Department is assigned by his department commander to relieve him. Par. 6, S. O. 152, A. G. O., Washington, D. C., July 1, 1890.

TAYLOR, MARCUS E, Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted on surgeon's certificate, in S. O. 45, June 13, 1890, Division of the Pacific, is extended five months on surgeon's certificate of disability, with permission to go beyond sea. Par. 6, S. O. 159, A. G. O., July 10, 1890.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. Having been found incapacitated for active service by an army retiring board, and having complied with par. 12, S. O. 135, June 10, 1890, from this office, is, by direction of the Secretary of War, granted leave of absence until further orders, on account of disability. Par. 3, S. O. 153, A. G. O., Washington, D. C., July 2, 1890.

ROBINSON, SAMUEL Q., Captain and Assistant Surgeon. Relieved from temporary duty at the United States Military Academy, West Point, N. Y., to take effect upon the arrival there of Captain W. Fitzhugh Carter, Assistant Surgeon, and will then report in person to the commanding officer of Fort Du Chesne, Utah Ter., for duty, relieving Captain Curtis E. Price, Assistant Surgeon. Par. 12, S. O. 153, A. G. O., Washington, D. C., July 2, 1890.

PRICE, CURTIS E., Captain and Assistant Surgeon, on being relieved by Captain Robinson, will proceed to Fort Wadsworth, New York Harbor, and report in person to the commanding officer of that post for duty, relieving Captain Robert B. Benham, Assistant Surgeon. Par. 12, S. O. 153, A. G. O., Washington, D. C., July 2, 1890.

BENHAM, ROBERT B., Captain and Assistant Surgeon, on being relieved from temporary duty at Fort Wadsworth, to report in person, without delay, to the commanding officer at Fort Hamilton, New York Harbor, for duty. Par. 12, S. O. 153, A. G. O., Washington, D. C., July 2, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 12, 1890.

PAGE, J. E., Assistant Surgeon. Ordered to hospital, Mare Island, Cal.

KENNEDY, R. M., Assistant Surgeon. Ordered to the League Island Navy Yard, Pa.

RIXEY, P. H., Surgeon. Granted leave of absence for fifteen days.

OGDEN, F. N., Assistant Surgeon. Promoted to be a Passed Assistant Surgeon.

WHITE, S. STUART, Assistant Surgeon. Promoted to be a Passed Assistant Surgeon.

ATLEE, L. W., Assistant Surgeon. Granted three months leave of absence.

WOOLVERTON, T., Medical Inspector. Ordered to the Philadelphia.

LOVERING, P. A., Passed Assistant Surgeon. Ordered to the Philadelphia.

MCMURTRIE, D., Medical Inspector. Granted leave of absence for thirty days.

Where Travelling is not Altogether Pleasant.—Travellers on the Eastern Bengal Railway have placed before their eyes on entering the stations of the road, a placard containing the following cheerful information: "Passengers are hereby cautioned against taking anything to eat or drink from unknown persons, as there are many who live by poisoning travellers. They first of all court acquaintance with passengers in a *sarai* or some other place, and then gain their confidence on the plea of being fellow-travellers going to the same place. When they reach a place convenient for the purpose, they poison the water or food of the passengers, who become insensible, and then they decamp with all their property. They also at times poison the passengers' water when being drawn out of wells, or sweetmeats brought from the bazaar, or food when being cooked."

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 12, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	19	6
Scarlet fever	50	5
Cerebro-spinal meningitis	0	4
Measles	327	25
Diphtheria	91	21
Small-pox	0	0
Varicella	5	0
Pertussis	3	14

Surgeon Parke.—The Cairo correspondent of the *Lancet* gives some interesting particulars concerning Surgeon T. H. Parke, who accompanied Stanley. He has been in the British service nine years. He was in Egypt during the Tel-el-Kebir campaign of 1882, and the next year served through the cholera epidemic in Cairo, and was in charge of the cholera camp at Helonar, where 250 out of 550 English soldiers were down with the disease, and there was a great mortality among the medical staff corps in consequence of their constant attendance on the sick. His report on this camp was published in the Blue Books, and he was specially thanked for his services by Surgeon-General Irvine. During the Nile campaign of 1884–85 he was well to the front, and by his hard work earned the friendship of all with whom he came in contact. He marched with Sir Herbert Stewart's column across the desert, and was present at the actions of Abu Klea, Gubat, and Metemmeh. He was at first in medical charge of the Naval Brigade under Lord Charles Beresford, when every man except himself was killed or wounded, and then returned to Korti upon the retreat in charge of the Guards' Camel Corps, with whom he remained at Dongola till the close of the campaign. For this he received the medal with clasps for the Nile and Abu Klea, and also the Khedive's bronze star. In February, 1887, Surgeon Parke accepted Stanley's invitation to join the expedition for the relief of Emin Pasha, signed a contract of agreement to go as a volunteer without remuneration of any kind, and obtained leave without pay from the military authorities. He left Egypt with Stanley on February 4th for Zanzibar, where seven hundred porters had to be engaged and vaccinated. This vaccination seems to have saved their lives in a wonderful way at a time when the non-vaccinated natives were dying of small-pox at a rate which threatened to seriously hamper the expedition. From Zanzibar he went straight to the mouth of the Congo, and then with a flotilla of Congo steamers to Yambuyo, one thousand miles from the coast. He then accompanied Stanley and the advance column in all their weary wanderings, and through the hardships of which we do not yet know a tenth part. When Stanley got safely to the coast he wrote in his official report: "If the expedition has been happy in anything, it is in the selection of its unrivalled physician and surgeon, Mr. Parke." Moreover, Stanley and some of the other officers of the expedition have freely admitted to the writer that they owe their lives to him, and in private they can never praise him too highly. Stanley, from his own account, seems to have been ill for six weeks in the forest, which had an area of two hundred and fifty thousand square miles. He suffered from subacute gastritis at a time when nearly half the men died of starvation. There were practically no food and no sunshine, and a long convalescence, during which life had to be sustained with forest fruits, green tops of bushes, roots, bananas, and fungoid growths clinging to decaying trees. For a long time he had to be fed with an india-rubber tube, and was too weak to turn himself in bed. Then, again, a year later he was laid low by a similar attack, followed by a much longer convalescence, during all which time he required careful nursing. It is easy to guess what would have become of the Relief Expedition if Stanley's valuable life had not been saved. One of the most memorable incidents of Mr. Parke's services during the three years' wanderings was when Mr. Stairs was wounded by a poisoned arrow near the apex of his heart. The latter believes that he owes his life to Mr. Parke, who sucked all the poison from the wound at the risk of his own life. Many men wounded by similar arrows on the same day died of the effects of the poison within a couple of days. Some samples of these wooden arrows with the poison and its antidote have been sent home for future analysis. When the explorers at last reached the coast, and were just preparing for their well-earned repose, poor Emin Pasha, as all the world knows, fell out of a window thirty feet high, and fractured the base of his skull. Directly he recovered consciousness he asked for Mr. Parke and begged him to stay with him, the German medical men disagreeing with their English colleague's less gloomy prognosis. While engaged in day and night watching at Bagamoyo, Mr. Parke was laid prostrate by bilious intermittent fever, with copious hæmaturia. He was carried on board a steamer, collapsed and believed to be dying. He arrived at Cairo on January 16th, convalescing from fever, hardly able to walk upstairs, thin, weak, anæmic, with great staring eyes; but a few days later he began his ordinary medical duty at the Citadel Hospital, and since then his weight has gone up to 173 lb. from 132 lb., which was his lowest record in Africa; and this is only a sign of the general improvement in his health. The Khedive has already recognized his services by giving him the third class of the Medjidieh, and the Royal College of Surgeons of Ireland has shown a prompt appreciation of his work worthy of being imitated, by making him an honorary Fellow, a distinction possessed only by six other living people. In the ordinary course of events, he must become a Surgeon-Major in about two years' time, but it is hoped that this time will be shortened by reason of the hazardous services upon which he has been engaged.

The Etiology of Rickets.—Hecquet maintains that rickets is never found in breast-fed children, but only in those fed artificially, and that therefore the disease depends on faulty combination of the food elements. He had noticed that beasts in the Zoological Gardens very often are affected with a disease of the bone-tissue, which is ascribed to the confinement. This "Zoological Garden disease" is certainly rickets, and affects the young, not fully-grown, beasts, whether born in confinement or not. The treatment, which consisted in the addition of bone-meal food, was unsuccessful until a fat-containing food was added. The result was then very satisfactory. Starting from this experience, Hecquet commenced his researches on the rachitic disposition, and now feels justified in asserting that the appearance of rachitic symptoms stands in close relationship with scrofula, and that every artificially-fed child who acquires rickets is really already scrofulous. He regards the stomach and bowel affection, giving rise to diarrhœa ablactatorum, on the first sign of rachitic digestive anomaly, depending on the presence of too little fat in the food. The truth of his observations, he thinks, is confirmed by the good effect of his treatment of diarrhœa ablactatorum and rachitis with a fat-containing food. He gives boiled milk and oatmeal gruel in equal parts, with one to three tablespoonfuls of cream, and one teaspoonful of milk-sugar. This is to be prepared fresh each time, and given every two hours. Instead of cream other fat can be employed, as butter, cod-liver oil, or cocoa-butter.—*Medical Recorder*, April 20, 1890.

Methacetin.—This is the name of a new synthetic remedy possessing antipyretic and analgesic properties. It occurs in the form of a faint rose-colored powder,

without taste or odor. Dr. Seidler reports some experiments in the *Berliner Klinische Wochenschrift*, No. 15, 1890, from which he concludes that the drug is an efficient antipyretic, the temperature beginning to fall within from fifteen to thirty minutes after the remedy has been taken by the mouth. He did not observe any depressing effects upon the heart. The dose is from four to six grains.

Poisoning from Antipyrine.—It is stated that no less than seventeen fatal cases of poisoning from antipyrine occurred in one week in Vienna during the prevalence of the influenza. In many of these cases the drug was bought by the victims themselves without a physician's prescription, but, partly in consequence of these fatalities, it is now illegal to sell antipyrine except upon a written prescription from a physician.

The Use of Leeches in Bacteriology.—Dr. Pasternatski has found that a very convenient method for collecting and preserving for cultivation the spirillum of relapsing fever is to use leeches. If the leeches are kept in a cold place, the spirilla they contain preserve their vitality for a considerable period, much longer than they do when kept in capillary or other glass tubes. When exposed for some time to a temperature of from 27° C. to 30° C. the spirilla were found to undergo transformation into other forms.—*The Lancet.*

A Supplemental Nervous System.—Dr. H. W. Loeb, of St. Joseph, writing in the *Weekly Medical Review*, argues that there is no such thing as sympathy peculiar to the so called sympathetic nervous system which is not resident also in the cerebro-spinal system. He believes that the two systems are similar in nature, and that the sympathetic is but an outgrowth of the cerebro-spinal. He proposes therefore to call the former the supplemental nervous system.

Female Druggists.—A daily journal has recently pointed out that pharmacy is now quite open to persons of the female sex, and suggests, what is certainly true, that it is a calling for which their neat touch and delicacy would seem peculiarly to suit them. For a long time there were difficulties in the way, but these have now been overcome, and there is no reason why lady chemists should not commence business, under the patronage—if they can secure it—of the lady doctors.—*Lancet.*

Why Not, if He is Honest?—A contemporary notes as a remarkable occurrence that Mr. Jonathan Hutchinson recently exhibited a case of skin disease before a medical society, with the statement that he was unable to make the diagnosis. We are not told whether the wonder is that the gentleman was unable to make a diagnosis, or that he was willing to acknowledge his ignorance.

Salicylate of Sodium in Pruritus.—Dr. Wertheimer reports the case of a woman suffering from universal cutaneous pruritus of nervous origin, for the relief of which he tried salicylate of sodium in fifteen-grain doses three times a day. After the third dose she enjoyed the first night's undisturbed sleep she had had for a long time, and by the fourth day all itching had entirely ceased. Smaller doses were given for a few days longer, and she has since remained free from any return of the pruritus.

Chemical Salts Developed in Living Organisms.—A memoir by Mr. Robert Irvine and Dr. Sims Woodhead, entitled "Secretion of Carbonate of Lime by Animals," recently published in the *Proceedings of the Royal Society of Edinburgh*, deals with the interesting question of the assimilation of food and the development of structures partially composed of a definite proportion of insoluble chemical salts. Thus, hens supplied with sulphate of lime, but no other lime salt, produce well-formed egg-shells composed of carbonate of lime. The process of shell formation in the crab appears to differ chemically from egg-shell development in the hen. Sulphate of lime is not assimilated in the same manner, so that crabs which throw off their shells in artificial sea-water in which sulphate of lime as well as chloride of sodium are present, but from which chloride of calcium is excluded, do not form a new exo-skeleton of carbonate of lime. As soon as chloride of calcium is added, although the sulphate be withheld, shell formation may go on. The authors of the paper minutely describe the share which epithelial and other cells play in secreting, or causing the deposit of, chemical salts in shells, and in bone. The histological and chemical processes differ considerably in bone, in egg-shells, in the shells of crustacea, and in the "mantle" of mollusca.—*British Medical Journal.*

Medical Instruction in Kieff.—The Faculty of Medicine at Kieff was founded in 1840, but the University has been in existence since 1835. The total number of students in all the faculties of the University is 2,600, of whom 900 are students of medicine. The period of study extends to ten sessions, comprised in five years. The two first years are devoted to the theoretical and practical study of the natural sciences—anatomy, physiology, chemistry, inorganic, organic, and physiological; physics, zoology, botany, etc.; thirty-three hours a week are thus occupied. At the end of these courses an examination is passed, and the student turns to the study of the strictly medical subjects for three years. Another examination is held during the last half-year, and the successful candidate receives the diploma of "Doctor." In order to obtain the diploma of "Doctor of Medicine" another more difficult examination has to be passed, and a thesis must be submitted and sustained by public argument.—*British Medical Journal.*

Glaucoma in Early Life.—Dr. Laqueur, of Strasburg, has met with six cases of glaucoma in persons far above the age at which this disease is usually observed. Four of them were males, aged seventeen, twenty-three, twenty-five, and thirty-six years, and two were women of seventeen and twenty-four years, respectively. Such cases are not unknown, but the vast majority of sufferers are aged over forty-five or fifty. In one only had there been any irritative prodromata, the disease being simple in the remaining five. In all it was unilateral, but in one the other eye was affected later. They complained of cloudy vision, with colored rings. From these cases he concludes that glaucoma occurring in young adults differs from that seen in more advanced life, in the anterior chamber not being flattened, indeed rather the reverse, the iris being normal and the pupil sensitive to light or fairly so, and the globe not so hard and tense, though the "cup" was well marked in all.—*The Hospital.*

An Opening for Dentists.—An American missionary from India says that there is a chance in Madras and Bombay for a number of bright, skilled American dentists. Madras is a city of three hundred thousand population, and has not a single American dentist. People sometimes travel from there to Bombay, nearly one thousand miles, in order to have a tooth filled. There is only one good dentist in Bombay, and he refuses to fill teeth with gold, using a sort of cement that is not lasting. He charges seven dollars and fifty cents for pulling a tooth.

Suicide by Means of a Pin.—At a recent meeting of a Parisian medical society, Dr. Magnan related the case of a young woman suffering from melancholia, who was determined upon self-destruction, and to this end stuck a pin of ordinary size into her chest just below the left breast. The pin passed through the sixth intercostal space, into the pericardium, and lacerated the myocardium. Death supervened from syncope, the heart stopping from a quantity of blood filling the lower part of the pericardium, although no important vessel was wounded.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 4.
Whole No. 1029.

NEW YORK, JULY 26, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

SPINAL SURGERY—A REPORT OF EIGHT CASES.[1]

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I HAVE the pleasure of presenting this evening, not a rose-tinted picture of startling achievements of new surgery, but rather a serious review of some of the grave cases of spinal troubles requiring surgical interference which have of late come under my care. They had all been subjected to prolonged medical treatment and were, when referred to me by the physicians or neurologists, in nearly a hopeless condition. Almost as many more cases have been refused operation, but these seemed either to offer hope of relief based on experience, or to give legitimate opportunity for novel operative methods based on sound physiological principle.

The popular idea among physicians has been that the spinal cord is more inaccessible to the surgeon than the brain, by reason of its irregular bony coverings and the hemorrhage from the venous plexuses that envelop it, and that injuries and diseases of it are to be looked upon hopelessly unless nature kindly assumes to work unexpected recoveries. This view is shared even by the public.

It is from the ranks of these doomed cases of paralysis of the lower half of the body and some other spinal troubles that an effort is being made to cull out some cases which, heretofore neglected, may yield good results.

A few noteworthy articles have appeared during the past two years reporting operative cases. Those by Horsley, MacEwen, Thorburn, White, Bullard and Burrell, Winslow, Dandridge, and Bennett are of special interest.

It is evident that some cases of improvement have been reported prematurely, and it is fair to ask some months' delay before a published report.

Especial interest has been aroused by the brochure of William Thorburn, of Manchester, just issued, giving, I believe, the most thorough and dispassionate review of this field that has yet been made. While realizing that his most lucid views are based on the study of all cases reported up to the present, one is struck by the fact that these are comparatively few. The need of reporting carefully all cases where operation is done leads me therefore to present the following eight cases which may be divided into four groups.

Three of paraplegia from fracture. One of early curetting of a vertebra for Pott's disease. Two of tumors of the vertebral canal with paraplegia. Two of intradural section of some of the posterior roots of the brachial plexus for neuralgia.

I will read the three fracture paraplegia cases together. The first one was:

CASE I.—*Fracture of the Spine between the Eleventh and Twelfth Dorsal Vertebræ, Complete Paraplegia ana Anæsthesia with Incontinence; Operation, Eleven Months Afterward, Breaking up Intradural Adhesions; Suture of Dura; Primary Union; no Relief of Paralysis up to One Year afterward.*—R. M. G——, aged twenty-seven, merchant; a gentleman above the average height and in good health until May 19, 1888, when he fell from a platform twenty-one feet high, while pushing off a large beam. Fell with the timber on sawdust-covered ground, receiving scalp wounds, but it is impossible to say whether the timber struck him or not. He was unconscious for three hours, and was completely paralyzed and insensitive below his waist when he recovered. Efforts were made, under ether, to straighten the fracture deformity of the spine by extension and manipulation, but nothing was gained. A bed-sore formed over the deformity and a water bed was obtained. At first it was filled with very cold spring water, and he suffered such pain on being placed upon it that he fainted and was unconscious for hours. Complete incontinence of urine occurred from the first, and his bladder was irrigated for cystitis. Diarrhœa was succeeded later by complete inaction of the rectum, requiring the persistent use of laxatives.

After three months he resorted to a wheel-chair and attended to business. This was his condition in April, when he was brought from Texas to Dr. Lewis A. Sayre, who referred him to me.

He was in good general condition, though having twelve per cent. of albumin in his urine, which decreased to seven per cent. before I operated. The line of anæsthesia was sharply defined and above it no hyperæsthesia.

April 12, 1889, I operated with the assistance of Dr. Weir. The method pursued being typical I give it in detail and will not repeat it for the other cases. The back was shampooed the evening before and a damp sublimate dressing kept applied until the moment of operation.

The patient was laid prone but with one shoulder raised by a sand-pillow—favoring easier respiration and inclining the back toward the operator slightly. A free incision was made parallel to the spines, and a half inch to one side, cutting the longissimi attachments from one side only, and being carried clean down to the laminæ at the second or third pass of the knife. To approach the fracture between the eleventh and twelfth, the incision was made from the eighth dorsal to the first lumbar spine; the laminæ were then cleared of muscles, which were drawn outward by retractors, and the ligament divided above the spine of the eighth and below the eleventh, thus isolating a block of four spines, whose bases were then severed from their arches by stout cutting pliers.

This manœuvre at once allowed a retraction of the entire block of connected spines with their muscles still attached on one side, and the entire breadth of the spinal arch was thus exposed without sacrificing the overlying tissues. A pair of slightly curved rongeurs was then applied to the lower edge of one lamina and with incredible ease the entire breadth was quickly gnawed away. Three arches, the tenth, eleventh, and twelfth were thus treated and the clean spinal cord laid bare for two and one-half inches. The twelfth dorsal vertebra was found to have been displaced backward, the fracture running through the articular facets, the pedicles and laminæ. The cord was compressed between the arch of the eleventh above and the upper lip of the body of the twelfth below. The intervertebral cartilage had been ruptured. Above the line of pressure the cord pulsated, below it did not.

In half a minute after the cord was released from its flattened state (the bone pressure area being only half an inch deep) the dura became rounded up as full as it was

[1] A paper read before the New York Academy of Medicine, May 15, 1890.

above or below. When it was filled out there was no surface appearance by which one might say the cord within was not normal, except that the upper portion pulsated. I emphasize this because surgeons so often have reported that the cord appeared normal, therefore they did not open the dura. The wound now being irrigated and dried the dura was slit up for two inches. Adhesions of various densities were found within, attaching the meninges to the dura. They formed a complete circular dam, shutting off the upper from the lower part of the canal. Only an ounce of clear spinal fluid came out, as the spinal canal had purposely been inclined on the table so as to slope with the head lower. The veins of the cord were not distended. The adhesions were, with very little force, broken up.

The cord was normal in thickness above the involved part, then, by a sloping rather than abrupt change, it merged into a flattened cord for three-fourths of an inch, retaining its breadth but less than half its thickness, the principal atrophy seeming to be in the posterior columns. Throughout this flattened portion the white fasciculi of the cord could be traced continuously, so that there was no abrupt break in its continuity.

Before operating it had been proposed to the patient—whose unusual intelligence and thorough appreciation of his hopeless state enabled me to lay all the possibilities of spinal surgery up to that time before him—that if we found the cord destroyed within narrow limits and apparently sound above and below, we might excise the destroyed portion and suture the fresh cut ends, if in our judgment it seemed wise. Though told it had never been done he accepted the experiment. It proved to be an impossible operation, however, in his case. To judge whether it would ever be possible, I tried to approximate the sound cord on either side of the damaged part by traction made with tenacula, embedded in the meshes of the membranes at such points as would have been available for sutures.

There is a slight latitude of motion of the cord vertically in the canal, and I judged at this trial that I might have excised a scant quarter of an inch, and then approximated the ends by sutures that would not tear out. The damaged cord in this case was three times that length. No further repair being possible the dura was sutured by fine catgut. Then the displaced spines were brought into line and sutured by heavy catgut to their neighbors above and below.

The fascia investing the muscles then received two or three interrupted catgut sutures with gaps for drainage, and finally the skin was drawn partly together by a few catgut sutures not tied, but left for use at the next dressing. No drainage-tube was applied, but a piece of protective three inches wide laid over the wound, the skin edges being left a quarter of an inch apart so as to allow drainage from the deep portion. The investing antiseptic dressing was covered by a plaster jacket covering only the back, like a turtle shell, and secured by an enveloping canton flannel binder pinned in front.

In forty-eight hours the dressing was changed.

Drainage had been perfect; the wound had healed except the skin, which the sutures, already in place, now brought together when tied, and a final dressing was put on.

From the time of operation he had no pain in the back or extremities. The wound healed primarily, leaving only a linear scar. He remained three weeks in St. Luke's Hospital, with no fever or other disturbance. His condition has been watched since then, and there has been no improvement in motion or sensation.

For six weeks he wrote encouragingly, and claimed that he could draw up his toes an inch and had returning sensations. A recent letter, however, written nearly one year after operation admits that he has gained nothing. Yet in general flesh and mental welfare he has never been better, weighing more than ever, and enjoying life from his perambulator which he wheels about.

About six weeks after operation he passed through a curious two months' illness of the nature of trance. He writes me that he began by having severe pain in his feet and legs every morning, then became unconscious after two weeks and remained so, yet seeming to be in pain while thus sleeping. Soon he became calm and slept constantly, sometimes answering questions and sometimes not understanding; but he seemed to know who was about him, and would usually tell. He came out of this abruptly and was in every way mentally himself again.

I judge this to have been an effect left by reaction after two months of exalted excitement and harboring the "exhilarating sentiment of hope," followed by swift appreciation of the unchanged paralysis, and that it is only one of the curious hysterical manifestations occasionally connected with spinal disturbances.

Case II. *Fracture; Paraplegia below Eleventh Dorsal, Two and One-half Years' Duration; Operation.*—G. W. I——, aged twenty-seven, merchant. In October, 1886, the patient was thrown from his horse on his ranch in Montana, and struck his back across a stick on the ground, injuring the spine at the junction of the dorsal and lumbar vertebræ. Instantaneous and complete paraplegia resulted below the waist, with paralysis of the rectum and bladder. He lay where he fell for a day and a half before he was discovered, during which time he was exposed to sleet and snow. When he was found he was taken to a farm-house and the nearest physician was summoned from a distance of ninety miles. During his exposure of a day and a half he had no food or drink. He had an over-distended bladder, but before the doctor's arrival he devised a method of his own for relieving his bladder by means of straws, the ends of which were rendered smooth by dipping in candle-wax. As a restorative after arriving at the farm-house, bottles of hot water were applied to his feet—so hot as to cause blistering, which resulted in gangrene. After three weeks he was removed to his home in Connecticut, where it was found necessary to amputate both legs below the knees. The bladder was catheterized for a week after the accident, but subsequently emptied itself when full without his control or knowledge. Rectal movements were also involuntary. Subsequently he suffered from severe sacral bed-sores. The paralyzed limbs often had a sense of burning and severe pain. Bending the knee forcibly caused pain, and at the time the legs were amputated, no anæsthetic being supposed necessary, the sawing through the bones caused intense pain.

His general health recovered so that he was able to be placed in his carriage and driven about. Indeed he was constantly in the habit himself of driving, of which he was very fond, being secured in the wagon seat by straps.

A few months before he came under my care, which was two and one-half years after the accident, he had unwisely remained in his buggy about seven hours. His anæsthesia rendered him unconscious of discomfort from prolonged pressure and there resulted a large area of pressure gangrene under each buttock. The resulting pressure sores refused to heal and thereafter he was confined to his back. His condition became so desperate that life had little in it for him, and he had even threatened to shoot himself if left alone. With the hope that some method of operation might be devised for his improvement he was brought to me at the Post-graduate Hospital by Dr. Smith, of Meriden, Conn. Examination showed absolute paraplegia and anæsthesia below the line crossing the sacrum at its upper border and extending in front across the abdomen two inches below the navel. The bed-sores under the buttocks were unhealed, exposing the bone. There was involuntary muscular jumping in both legs. Urine showed granular casts, but no albumin. The patient had strong and natural erections with emissions.

He was examined by Dr. Dana, whose conclusion was that the cord was absolutely severed at the last dorsal, but that below the second lumbar it must be in fairly healthy condition.

The case seemed absolutely hopeless unless it were possible to innervate the lower segment of the cord by renewing its contact with the upper, or, what seemed not impossible and perhaps worthy of trial, to carry out a suggestion of Dr. Dana's, in case the parts were not too much injured, "to cut off a few of the lower dorsal roots long and of the lumbar roots short and suture them together, thus increasing the chance of getting sensation.

The man's hopelessly bed-ridden and suffering condition led him to urge us to any operation, however novel or dangerous, that offered the slightest chance of improvement. I therefore operated, April 18, 1889, at the Post-graduate Hospital, by the same method as detailed in former cases. An incision was made from the ninth dorsal to the third lumbar vertebræ, and the spines of the tenth, eleventh, and twelfth dorsal and first lumbar were clipped from their arches and drawn aside with attached muscles, exposing the entire spinous arch. It was then found that a massive and dense eburnated deposit of bone had formed at the site of the eleventh and twelfth dorsal and first lumbar laminæ. This was with difficulty chiselled and cut away until the severed end of the spinal cord was exposed and found to be completely cut across and the dura sealed up. Below this, for one and one-half inch, solid bone filled the vertebral canal. The cord here commenced again and its end was found engaged in the bone so that spiculæ had grown into it. It could not be lifted up to approach the upper end more than half an inch, and it was evident repair by suturing was hopeless. The operation had been unusually bloody on account of numerous venous sinuses, which were opened in the bone and the patient was considerably exsanguinated. He rallied fairly well from the operation by thorough stimulation and saline infusion of thirty ounces into the vein of his arm, but died thirty hours after, the kidneys secreting only four ounces of urine during this time.

Case III. *Fractured Eleventh Dorsal Vertebra; Paraplegia; Operation; Opening Dura; Recovery Unimproved.*—J. S——, aged twenty-seven, coachman. On January 1, 1889, alighting from the rear platform of a "bob-tail" car, while going rapidly, he was struck in the small of the back by the platform, fell on his hands and knees, suffered acute pain in his back, and was paralyzed at once. He was moved in an ambulance to a hospital, and plaster jacket applied for a month. Had incontinence of urine and fæces. His urine was acid and contained a trace of albumin. Had no pain in his legs and paraplegia was complete. Admitted that he could feel when his legs were touched and complained of tingling in both feet and legs. On examination a slight depression was seen between the last dorsal and the first lumbar spines. A line of anæsthesia crossed the back at the top of the sacrum. At the sides it ran one inch above the crest of the ilium and crossed the abdomen two inches above the pubes, the line following the curvature of the groin along Poupart's ligament. There was atrophy of all the muscles of the thighs and legs. Complete paraplegia and anæsthesia, the skin of the lower extremities showing persistent vasomotor impressions.

February 28, 1889.—Operation under ether. Incision seven inches long from the ninth dorsal to the second lumbar. Operation essentially the same as in the case narrated last. The laminæ of the tenth, eleventh, and twelfth dorsal and first lumbar were removed by rongeurs. The arch of the eleventh dorsal showed evidence of recent fracture, but there was no displacement and no pressure. The dura appeared evenly full and round, and as far as its surface showed nothing would be suspected wrong within it. It was, however, then slit for three inches and a half; from the lower part a little fluid escaped. At a point underneath the injured arch a circular dam of lymph was found, one-eighth of an inch wide, between the dura and the cord, entirely shutting off the upper from the lower part of the canal. From above this dam the arachnoid fluid flowed freely. The cord at this point showed evidence of having been completely crushed, the white substance ending abruptly and beginning again something over half an inch below. In the intermediate space the cord was represented by a pinkish-gray substance, apparently consisting of only the meshes of the membranes, but no white fasciculi. Just below the lymph-dam a mass of largely distended veins occupied the surface of the cord, showing obstructed venous return. These entirely emptied themselves upward when the pressure was taken off and the lymph parted by the probe. The cord was entirely liberated from its adhesions, the dura sutured with fine catgut and the wound closed.

The patient convalesced without fever, the temperature never rose above 99°, and the wound healed promptly with no escape of cerebro-spinal fluid. On the following day, I was surprised to find that the patient had acute hyperæsthesia of all the paralyzed part. A touch or pulling of the hair on the feet, legs, and thighs instantly gave acute pain and involuntary jumping of the limb. There was absolutely no voluntary motion however. He was able to identify the part touched, as witnessed by Dr. Dana and myself and the House staff.

During the second week, this hyperæsthesia abated, and he was as he had been before. The muscular response to Faradism was improved, but there was no volitional action up to six weeks after operation.

All operators upon cases of fracture paraplegia of any duration have thus far arrived at about the same conclusion—namely, that the pressure of bone is of the most secondary importance, except the fracture involves only the arch, where it is driven in by a blow, inasmuch as the violence, usually a fall and bending of the back, which will produce instant paralysis, has done so by a diastasis of the vertebræ, the cartilage being ruptured and the arches broken, which completely pulpifies the spinal medulla. The vertebræ are very apt to immediately resume their usual relations. If, however, the fracture takes place at or below the last dorsal, where the medulla has disappeared and the firm cauda equina commences, the crushing does not usually destroy the nerves, but long bone-pressure would. In such cases operation to correct it is always desirable. It still remains a problem, perhaps never to be solved, how to connect the lower segment of the cord with the upper when there is a gap of half an inch, and whether this union would restore functional connection with the brain, even though its reflex and independent activity may be ever so good. The cases may yet be found where sufficiently narrow transverse lesions will allow suturing fresh cut ends of the cord.

In other cases it remains yet to try the suturing of nerve-roots from above the break into some one or two below, sacrificing only the cutaneous supply for a small area, as suggested by Dr. Dana, or, as seems feasible, implanting them into the cut end of the lower stump, thus perhaps innervating some limited portion of the distal end with the chance of stimulating more. Possibly in this way even the vesical control alone might be restored. This is conjecture entirely, and based on the fact that clean-cut nerve-sections will unite.

The next case is one of Potts' disease, taken early and treated as a tubercular caries in any joint would be. The only points of interest are indicated in the report.

Case IV.—Eugene K——, aged twenty; glass-worker. This case is narrated simply to show the ease with which the vertebral bodies, if carious, may be approached from behind.

Two years before admission the man had had a pleurisy from which he recovered. Subsequently he was cured of a fistula in ano, and when he came into St. Luke's Hospital he had slight phthisical changes in the apex of the left lung, and a lumbar abscess prominent over the iliac crest. The latter was opened in September, 1889, by Dr. Curtis, and discharged profusely through three sinuses around the crest of the ilium.

In February last, I found a long probe passed upward to the last dorsal vertebra, and as there was no deformity

and but little pain, I considered the possibility of curetting the carious bone.

On February 5th I incised beside the twelfth dorsal, guided by the end of the probe. The transverse process of the twelfth was carious and was cleared away with a bone curette. This instrument was then worked into the body of the bone alongside the spinal dura, without injury to the latter, and a large excavation of softened bone removed to the extent of about half of one vertebral body, when on every side the curette encountered firm and apparently sound bone; the entire course of the pus-track through the soft parts was curetted and douched with sublimate solution, and finally with solution of iodoform in ether. The wounds were dressed with the usual care. In six weeks the patient was sent from the hospital with only a slight discharge, and with but one sinus.

The course of this case shows that where there are long sinuses connected with a small carious bone-focus the great proportion of purulent secretion is from the sinus walls, uniformly lined with tubercular granulation. It further illustrates the ease with which the excavation and drainage can be accomplished directly backward through one side of the vertebral canal, by pressing the uninjured dura aside.

I now speak of two cases of unusual interest, because they represent a field in which the extreme nicety of diagnosis does credit to the physicians in charge, and surgical relief follows closely.

Case V. *Extradural Tubercular Tumor of the Spine; Paraplegia Complete; Operation; Recovery.*—I epitomize the narrative of this case, which has already been reported in full at the State Medical Society in Albany one year ago, *New York Medical Journal*, February 24, 1889.

G. P——, aged twenty-two, was taken with pain in his back in January, 1888; came to St. Luke's Hospital in March. The spine was flexible, and without deformity, though a very slight fulness was seen in the soft parts to the right of the ninth and tenth dorsal spines. During March sense of touch was dull in his legs and the muscular power somewhat weakened. A line of hyperæsthesia formed about his waist. Two weeks later he could not stand without support and he had uncontrollable twitchings of the legs, which had become quite anæsthetic. He had constant intercostal pain, with girdle pains about the limiting line of disease. Incontinence of urine and fæces followed. An active hectic set in and he rapidly wasted away. During the week before operation he failed so rapidly that it seemed he could live but a short time.

On May 26, 1888, just two years ago, I operated. Making a free incision I removed the spines and arches of the eighth, ninth, and tenth dorsal vertebræ. Outside the carious arch of the ninth was a half ounce of thick pus, but within, and filling the vertebral canal, was a small quantity of inspissated pus and a large amount of dense neoplasm—evidently tubercular. It extended up and down the canal for two and a half inches and was thoroughly curetted from the cord by Volkmann's spoon until sound bleeding tissue was left on every side. The cord was firmly compressed against the anterior wall of the canal. The wound was lightly packed with iodoform gauze and allowed to granulate. A plaster jacket was applied over all. On the eighth day sensation began to return in his thighs. In three weeks he began to move his legs and toes. His hectic left him. Pain disappeared at once and appetite returned. In six weeks he moved his legs well. In three months walked with crutches. In five, walked without support, but with an ataxic gait. In eight had become robust and hearty and walked very well.

He resumed work and remained in perfect health for two years, walking as well as ever and without fatigue. Recently, after the confinement of the winter, he has had an abscess form in the cicatrix which had been so long healed, and I have had to curette a sinus remaining from it which led down to the bone. There has been no affection of the cord, however, and I hope very soon to heal the sinuses, though they have a distinctly tubercular appearance.

Case VI. *Pressure Paraplegia from Extradural Sarcoma; Operation after Eight Months; Resection of Arches of the Eighth, Ninth, and Tenth Dorsal Vertebræ; Complete Removal of Tumor; Death on Ninth Day.*—Professor D. A. MacG——, aged forty-two, of Toronto. The family history of this patient represents an unusually vigorous type and free of any inherited tendencies. He himself a man of excellent physique and with no acquired disease and enjoying exceptional health except for one incident, repeated eight or nine times during as many years, namely that he had vomited dark blood from his stomach, "not at any time more than a teacupful," and always after some particularly violent exercise, such as rowing, sawing, or shovelling snow, which caused kneading motion of his stomach. He never regarded the matter seriously and only once sought advice. The last occasion was one year ago.

Three years ago, while placing a pedal under a heavy piano, the instrument was let down and pressed heavily on his back. He suffered pain several days. Six months later, while lifting the corner of a piano he was caught by an excruciating pain in the back and felt as if he had stripped up a piece of muscle from the rib on his right side. No further pain or trouble ensued. About July 1, 1889, he jarred his spine severely, by attempting to spring upon a car platform, but miscalculating the distance, alighted violently on his feet, on the pavement. A week later he again jarred his spine by slipping on an icy place and plunging forward on his hands and knees. These are all the possible sources of trouble known to him. In July, 1889 he first felt a decided, though not severe, pain in his back at the site of the present trouble. His health began to decline. His bowels became difficult to move except by laxatives which it was found necessary to make stronger and stronger. As the days passed on he found it difficult to urinate and by great effort could only partially empty the bladder. A pain, mostly in the right side, centred in the back and a "trickling sensation worked about the line where the girdle of paralysis now is." He kept himself tightly bandaged to relieve pain. He was believed to have muscular rheumatism and as he was losing strength rapidly was urged to take exercise. In two weeks he found it painful to rise and dress, but by effort did so and supporting his back with both hands walked about the house. At the end of five weeks he found himself losing his ability to guide his limbs. His limbs grew weaker and he walked pushing a chair before him for security. He had no temperature, but from sheer weakness he took no exercise for several days. After again being told he must exercise, he made one final effort on the evening of August 23d. He pushed the chair before him but fell on his side. With indomitable will he made another effort and fell on his back. Then he crawled to a sofa and lay there all night. Immediately thereafter his paraplegia and insensibility were complete. One of his feet was blistered without his knowing it, and retention of urine required catheterization. During two months succeeding he recovered a little control of his bladder and improved somewhat in health.

In October, 1889, he was visited by Dr. E. C. Seguin in consultation. A diagnosis of pressure paraplegia was made, and operation advised. A letter from Dr. Seguin, which I will cite later, gives the ground of differential diagnosis. About January 1, 1890, he came to New York under the care of Dr. R. F. Weir. Drs. Seguin and Weir found on examination a slight fulness of the eighth dorsal spine, and advised a month or six weeks' orthopædic treatment, hoping that the pressure might be from Pott's disease, and that a natural relief of intravertebral pus might soon be expected and the paraplegia cured without operation. Dr. A. B. Judson adjusted a most comfortable spinal brace, and watched his course.

The looked-for improvement did not come. His cys-

titis grew worse. Absolute anæsthesia was established below the waist. The bowels, which had been constipated, became incontinent. He had a fortnight's illness with acute nephritis, and a temperature of 102½° F. Dr. Weir being now in Europe, he was transferred to my care, as he had directed in case of decline.

March 13th.—On examination his urine now had five per cent. of albumin. The anæsthesia line encircled the body, passed through the navel in front, the second lumbar spine behind, and a line at the sides three inches above the iliac crest. The muscles of the legs were in spastic contracture. The plantar, perineal, patella, and other reflexes were exaggerated. The eighth, ninth, and tenth dorsal vertebral spines were raised a little, and pressure on the right of them gave pain, as did pressure on the angles of the ribs on the same side. General condition fairly good for operation.

On March 20th, the day before it had been arranged to operate upon him, he had an unaccountable chill, with a temperature of 104° F. Prior to this it had ranged from normal to 100° F. His urine showed twenty per cent. of albumin and various casts.

On March 23d, another chill and profuse sweating. His stomach had rejected food, but soon improved. This attack lasted over two weeks before his temperature fell to normal. There were no pulmonary complications, but deep ulceration of the rectal wall was found, which he said had existed for two months.

This attack, as well as the one of six weeks before, was probably due to a slight septic infection from the rectal ulcer, which now healed under iodoform.

By April 16th he seemed again in fair condition to bear operation, though not nearly as well as before. Assisted by Dr. Weir and Dr. Farquhar Curtis, I incised from the seventh to the eleventh dorsal spines. The arches of the eighth and ninth, as well as the base of the spine of the eighth, were found somewhat crumbly and eroded by a softish dark growth, which disintegrated the bone where it pressed outward from the vertebral canal. The bone was unusually porous in the neighboring parts, not immediately involved in the tumor, and bled freely. On removing the arches of the eighth, ninth, and tenth vertebræ, and the pedicle of the eighth, a firm dark growth was found to fill the vertebral canal, compressing the cord to the left side and flattening it somewhat forward, so that it represented scarcely more than half its normal bulk. The tumor stopped abruptly at the ligamentum subflava above the eighth, and extended downward an inch and a half. It was readily removed by blunt dissection from the dura, which was left with a quite natural appearance. The growth bulged backward between the arches, laterally between the pedicles, which it softened, and forward into the body of the eighth vertebra, and at the side into the subpleural space. From all of these sites it was removed by Volkmann's spoon. The pleura could be seen to rise and fall with respiration.

Not a trace of pus suggestive of tubercular caries was seen anywhere. The wound was packed loosely with iodoform gauze. No plaster jacket was used. He endured the operation very well and was in excellent spirits for four days, when an occasional hiccough was observed. His wound was in perfect condition, and the packing being removed on the second day, the sides were allowed to fall together.

On the fifth day the hiccoughing became rapidly worse, and he vomited everything except a little milk. On several occasions he vomited a little bloody fluid, such as he had done in former years. His bowels were freely acted upon, and his kidneys were doing quite well, with only five per cent. of albumin in the urine.

Every measure was resorted to to check the hiccough and vomiting. It seems that he was subject to attacks of this at times, and was relieved by soothing his stomach with slippery elm water or gum arabic, both of which failed now. His vomiting continued also. By the eighth day the incessant hiccough and vomiting had exhausted him. His respiration became irregular, pulse intermittent. He became delirious and died on the ninth day. His temperature for the last four days was nearly normal. The muscles of the legs began to react to electricity on the fifth day, the gracilis first, and many others on the sixth day. No return of sensation or voluntary motion, however, ensued. A careful examination of the tumor was made by Dr. J. S. Thacher, who found it to be a round-celled sarcoma, without trace of leucocytes, giant-cells, or tubercular material.

Although this patient died exhausted largely by the hiccough, I suspect there was some morbid condition of the stomach like ulcer. No post mortem examination was permitted, except of the spinal cord exposed in the wound. This was found to have rounded up to nearly its full size during the nine days that had transpired since operation. The dura was quite natural, and on opening it the cord and membranes looked normal in color, form, and consistence.

Of these two cases, the first may be considered one of tubercular tumor, as that was the essential feature of it. In all probability it only involved the arches of the bone; after its growth in the canal it began to press on the cord. The neoplasm was dense cellular growth, not hypertrophied dura, for that was left when the former was curetted away. The subsequent course of events has left no doubt of its tubercular origin. MacEwen reports two similar cases. My second case is of such special importance, as illustrating the differential diagnosis between myelitis of the cord and pressure paraplegia of tumor, that I take pleasure in incorporating a letter just received from Dr. Seguin relative to that question, and feel that further comments from me are useless.

"23 Aborn Street, Providence, R. I.,
May 13, 1890.

"My Dear Abbé.—The diagnosis of compression myelitis was arrived at by deductive and exclusive reasoning. The dominant symptom, the 'signal symptom,' was the fixed side pain which soon became a lumbo-iliac (?) pain. Then followed a gradually increasing paraplegia, without atrophy (at first), but with great increase of the reflexes. The anæsthesia was secondary during the first few months.

"Now, this symptom-group (at the end of October, 1889) was suggestive of a myelitis in the involvement of the lateral columns; a spastic paraplegia *plus* anæsthesia. The anæsthesia served to exclude primary sclerosis of the lateral columns. But the initial symptom, the fixed side pain, has, we well know, a very restricted meaning. It is never present in myelitis, or in sclerosis of any system of the cord. It surely indicates an extra-cordal lesion, involving in some way the posterior root or the mixed root of the nerve which supplies the seat of the fixed pain. I call this the dominant symptom, because it serves to locate the lesion (or the chief and primary lesion) outside the spinal cord at a certain level. This being granted, the other symptoms, which are apparently more striking, viz., slowly increasing paralysis and anæsthesia (the latter subordinate), and great increase of reflexes, would surely point to the existence of a lesion outside the cord, producing steadily increasing pressure on this organ at a limited point or level, leaving a healthy segment of gray matter caudad of the lesion. The diagnosis turns upon the pressure of fixed pain in one side, and also, though with much less logical force, upon the comparatively slight anæsthesia, at a time when the volitional motor impulses were wholly arrested at a given level.

"A focus of central myelitis in the dorsal region would give rise to a paraplegia, with equal sensory or motor symptoms, but probably with greater sensory symptoms; and the side-pain would be absent.

"Having established, easily, I think, the diagnosis of compression of the cord by a growing lesion, the further diagnosis, viz., that of the nature of the compressing lesion, is extremely difficult, and often impossible. In a case

which has exhibited external cancerous or sarcomatous tumors, the diagnosis of such a tumor of the dura or bones is not difficult. In cases where signs of pulmonary phthisis are present, or where there is a clear history of injury to the vertebral column, we are warranted in diagnosticating some form of 'Pott's disease' with caseous formations. In a syphilitic subject, the question of gumma of the dura mater should be considered. In cases without injury, or phthisis, or syphilis, or external tumors, we can only venture a diagnosis of primary tumor of the dura or bones by exclusion, but this is, after all, guesswork to a certain extent. Usually the tumor is not diagnosticated, as happened in the case of Commander J——, where I made a diagnosis of compression myelitis, *probably* from 'Pott's disease.' I do not include in this discussion those cases in which an evident large kyphos indicates the collapse of the bodies of several vertebræ from 'Pott's disease:' these are most easy of recognition.

"What I have said of the significance of the side pain will explain why I have always taught that great care should be taken to ascertain exactly whether the sensation in the patient's side (chest, abdomen, or groin) is a true pain, or a sense of constriction. The former has the specific value I have assigned it above, while the latter occurs in myelitis, meningo-myelitis, posterior spinal sclerosis, etc. Either of these symptoms may be uni- or bilateral.

"Let me add it as my deliberate opinion that in cases of compression myelitis, except when due to syphilis and 'Pott's disease,' *improving* under appropriate treatment, an] exploratory or curative operation is justified, and should not be too long postponed.

"Sincerely yours,

"E. C. SEGUIN."

Finally, two cases of section of certain of the sensory roots of the brachial plexus for neuralgia present what I supposed to be a unique operation. Soon after its publication, however, the case of Mr. W. H. Bennetts, of London, was published—narrating a similar operation for relief of sciatic neuralgic spasm, by division of the posterior roots of the first, third, fourth, and fifth lumbar, and first and second sacral nerves within the dura. The man was at once relieved of all pain, though the spasms continued and anæsthesia of an extensive distribution in the leg resulted. In a few days this area renewed its power of sensation, though the pain kept in abeyance. On the twelfth day the man died of apoplexy.

This operation was performed on December 24th, and mine on December 28th.

CASE VII. *Intractable Brachial Neuralgia; Nerve-Stretching, Amputation, and finally Intradural Division of the Sixth, Seventh, and Eighth Cervical Nerves.*—This case was reported at the State Society meeting (*New York Medical Journal*, February, 1889) and will be epitomized here.

For nearly two years before I operated, the patient, a man, forty-four years of age, had suffered most intense neuralgia of the right brachial plexus, appearing in the forearm and hand. It began the night after a hard day's work putting a zinc lining in a large butcher's refrigerator. It grew worse and more paroxysmal. The hand became disabled and muscles somewhat atrophied. Dr. Dana and others agreed in the diagnosis of ascending neuritis.

Dr. Bull stretched the posterior interosseous and ulnar nerves in the spring following. The pain was no better. The patient begged an amputation, and in July Dr. Bull removed the arm at the deltoid insertion in the humerus. The pain did not abate. The fingers seemed to draw and twist as if still on. He acquired the morphine habit, taking a half-grain hourly to subdue pain.

The possibility of the pain being caused by a tumor or inflammatory process near the origin of the nerve-roots, or of dividing the sensory roots behind the ganglion, as proposed by Dr. Dana, who referred him to me, led to the following operation:

On December 31, 1888, I removed the arches of the fourth, fifth, sixth, and seventh cervical vertebræ and exposed more than two inches of the cord. No tumor or abnormality was felt. I then drew back the roots of the sixth and seventh nerves from the intervertebral foramina into the vertebral canal, made some electrical observations detailed in the previous report, and then cut them across just outside the dura where sensory and motor roots join. The wound was lightly packed with gauze.

Recovering from anæsthesia, he still suffered pain, seemingly in the fingers. This region was supplied by the eighth cervical nerve. Forty-eight hours after the operation I placed the patient prone, under a good light and without anæsthetic, removed the gauze packing and did the following operation: The dura and cord lay in the bottom of the wound clean and dry. I punctured the dura and split it for an inch and a half, letting out two ounces of spinal fluid. This was painless and produced no appreciable sensation upon the patient or effect upon his pulse.

I now picked up the posterior roots of the eighth nerve within the dura which was at the same level as the seventh outside, and cut a quarter of an inch from it. It gave him exactly the same pain when handled as he had experienced for two years or more, and I hoped we had at last gotten at the root of the trouble. I treated the seventh nerve likewise. Then sutured the dura with fine catgut and closed the entire wound. Immediate union was obtained, better even than by primary suture, and a fine linear cicatrix remains, as you see, upon the patient's neck.

The pain entirely changed in character, though he had considerable pain for the next ten days. It no longer went down into the fingers, but seemed to draw the stump. After eleven days he sat up and stopped his morphine. Pain was even less after this. Yet it was paroxysmal and at times severe. The skin was anæsthetic, completely so, from the acromion process downward on the entire outer sides of the arm. There was partial anæsthesia of the anterior and posterior aspect of the arm and over the shoulder from the middle of the clavicle to the middle of the scapula, while the skin facing the axilla was rather hyperæsthetic. This condition was maintained unchanged up to the present, a year and four months since operation. Another disturbance is of interest. Since the fourth day after the operation the vaso-motor disturbance is shown in the anæsthetic skin, which when pinched remains blanched for two or three minutes and when pricked or scratched becomes suffused and forms wheals persisting ten or fifteen minutes. This condition still maintains. He now thinks he has as much pain as before the operation and has gone back to taking a grain of morphine daily.

CASE VIII. *Intractable Brachial Neuralgia Intradural Division of the Posterior Roots of the Sixth, Seventh, and Eighth Cervical and First Dorsal Nerves.*—Gabriel Z——, aged forty-five. Patient gives no history of rheumatism or syphilis, but has had malaria at one time.

In the latter part of 1886 he states that he exposed his arm at the window of a street car while he was in a perspiration and he dates the beginning of his trouble from this time. A few days afterward he experienced sharp pains between his thumb and index finger. This grew steadily worse and at length became located on the outer side of his forearm and was accompanied by a feeling of drawing and twitching of the little and ring fingers as well. The pain extended up the forearm. It was intermittent, but of such severity as to cause him to cry out.

After two months he grew weak and nervous, lost his appetite and suffered so much that he had to give up his business.

The attacks were paroxysmal and the sensation described by the patient was that of a "drawing pain," the acute seizure leaving some continuous pain and soreness on the ulnar side of the hand and arm.

In August of the following year his ulnar nerve was

stretched by Dr. L. A. Stimson. The pain grew steadily worse, the attacks coming on more frequently at intervals of half an hour. The pain spread over the forearm and hand, and in July, 1888, the ulnar nerve was exsected by Dr. Fluhrer. Following this the pain recurred in an exaggerated form, and the nerves of the brachial plexus were stretched in the axilla by Dr. Gerster. The paroxysms became even more severe, coming on every five minutes during the day and every half hour in the night.

After the first operation the forefinger became drawn backward and the forearm wasted. The patient took to morphine in large quantity with only temporary relief.

On February 9, 1889, the patient came under my care. Examination showed him to be a rather intelligent man, of spare physique. He bears evidence of long suffering and has a haggard expression. His attitude is peculiar; he sits with his head bent forward and his body bent so that his left elbow rests upon his knee, his right hand grasping his forearm, the elbow semiflexed.

At intervals of a few minutes he is seized with violent paroxysms of pain which he describes as of a "drawing" character extending from the fingers up the forearm, as though his fingers were being drawn away from his hand and his hand from his forearm. He has a habit of shouting with these attacks of pain, which have made him a source of dread in the neighborhood of his residence. Grasping his arm he will walk the floor in agony for from three to five minutes until the pain subsides. The night attacks are similar to those of the daytime, although not so frequent. Sleep is of course only fragmentary. Urine showed specific gravity 1.009, no albumin.

The flexor actions of the hand are very feeble. The intrinsic muscles of the hand are atrophied, the thumb and middle finger being constantly in a sweating condition. He can raise his hand to his head. The deltoid is atrophied. Triceps in good condition. Infraspinatus atrophied.

He requires hypodermics of morphine about every two hours to render him at all comfortable—one-sixth of a grain.

On consultation it was thought possible to bring about sensory anæsthesia by operation upon the sensory roots of the brachial plexus.

On February 15th, the patient was etherized and I operated, assisted by Dr. Murray. The neck was shaved exposing the occipital protuberance, and the patient was placed in a semi-prone position on his right side. Incision was made to the left of the spinous processes from the third cervical to the second dorsal vertebra. The laminæ of the fifth, sixth, and seventh cervical and first dorsal vertebræ were cut away, exposing the dura. Palpation revealed no tumor or abnormal condition of the cord. The dura was punctured and an ounce of arachnoid fluid escaped. The dura was then slit up for two and one-half inches. The cord appeared normal except that it was slightly congested. The posterior root of the first dorsal nerve was then lifted with a strabismus hook and divided by scissors close to the cord. The free end was then caught by mouse-tooth forceps and one-quarter inch was exsected. The sixth, seventh, and eighth cervical roots were similarly treated. The dura was then sutured with fine catgut. After suturing, the seventh and eighth cervical nerves were then stimulated by a weak faradic current outside the dura, Dr. Dana assisting. Stimulation to the seventh resulted in sharp muscular contraction, the scapular being jerked upward and the arm rotated inward. Current applied to the eighth caused the forearm to be sharply extended.

The wound was then sutured with deep and superficial sutures.

On the following day the patient passed a very comfortable time, using less morphine.

On the second day he had but one hydodermic and slept two hours, taking his nourishment well.

The third day he complained of pain in the shoulder and arm, but had a fairly comfortable day and slept for four consecutive hours.

On the fifth day he had severe pain in his head and some mental excitement; took nourishment well. This day there was recurrence of his sharp attacks.

On the seventh day wound was dressed and he was more comfortable. He was allowed to get up, as it was found impossible to keep him quiet in bed.

On the eighth day he suffered less from pain.

From the ninth to the fifteenth day the old pain continued, though less severe.

At the end of four weeks the patient was discharged in a condition of moderate improvement in the matter of pain.

The morphine habit had been entirely checked.

Two months after the operation I visited him at his house. He was much improved in general condition and doing well. He still maintained the habit of leaning his head down and seemed to be in pain. He was, however, easily diverted, and if entertained seemed free from paroxysms for considerable intervals. His actions suggested those of a man craving attention and gave me the impression of one desirous of continuing the appearance of suffering. He had entirely stopped the morphine habit and had stopped crying out as formerly.

Examination showed the arm and shoulder appearing as before. The muscular power was unchanged. Anæsthesia seemed complete on the left hand, front, and back up to an inch or two above the wrist, over the entire dorsum of forearm and side and dorsum of upper arm half way above the elbow to the shoulder. Above the middle of the arm to the shoulder there was no anæsthesia.

Dr. F. H. Strong, of Yonkers, under whose care this patient had long been, wrote me that he found him decidedly better, and that he thought the amount of physical suffering which he really felt was now comparatively insignificant.

Soon after this the patient had a severe attack of diarrhœa, and lapsed into a low muttering delirium, showing no evidence of pain while in this condition. For one month he continued to have delusions. He then improved rapidly and commenced having pains in the wrist, though not as before.

Two months subsequently he began again to suffer pain and howled during the paroxysms.

Three months after the operation his mind was perfectly sound, but he complained again of his pain and was despondent but did not scream out.

The subsequent course of his trouble during the year has been a mild type of the same evidence of pain as before the operation. The pain does not now cause him to shout. The anæsthesia remains the same.

Dr. Thacher's pathological report of the resected roots, says: "Inflammatory exudation quite marked at portions of the surface and less marked at a few points inside some of the roots. The changes are most marked in and around the root of the first dorsal."

The basis for this operation is the fact that sensory conduction is isolated in the posterior root, which is easily operated on within the dura. Experiments recently made by Singer, Horsley, and others, to study the ascending degeneration after this section in monkeys, showed that a speedy and complete degeneration backward into the cord followed the section. This would give the desired destruction of an inflamed or diseased nerve to its very ultimate fibres. In my two cases there has remained all the anæsthesia obtained at the operation. Pain, however, has apparently recurred, though much milder. There is often simulated pain in those who have acquired the morphine habit, but in these two cases I believe it to be genuine. My conviction is that if all five roots had been cut the chance of recurrence would have been less.

It is of interest that in four of the eight cases about two ounces of spinal fluid were evacuated when the dura was cut, but that no disturbance followed. These all recovered. Horsley says the dura is highly sensitive, and that the patient should be deeply narcotized when it is

cut. That this is an error is shown by the man who endured a two-and-a-half-inch cut in it without anæsthetic and told me at the time that it was painless.

I cannot end this paper without emphasizing the advantage of the method of operation I have adopted. It is the most speedy, the least bloody, preserves *all the tissues* in and about the spines which are replaced and give firmness to the back as well as preventing a gap that nature must fill.

The incision should be on one side of the spines only, they being cut off and dragged to the other side, exposing the entire arch without dividing the inter-spinous ligament. The only bone-cutting instruments to be used are two narrow rongeurs, one curved, one straight, with a quarter-inch bite and presenting a flat Gothic arch aspect when the points are brought together. Any saw is dangerous, awkward, and inefficient. The rongeurs are by far the quickest.

While we are not warranted in taking a sanguine view of the results of operation, yet surgery, with its possibilities ever looming up, ought not to occupy the ultra-conservative ground of the past in this field.

The scope of operative work may never be a large one, but it will probably not be as small as heretofore.

SOME PRACTICAL POINTS IN THE HISTORY AND MECHANICAL TREATMENT OF FRACTURES OF THE FEMUR.[1]

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I HAVE no new method to propose, no display of apparatus to make, no exhaustive or exhausting essay to detain you with. When I entered the ranks of the profession the generally adopted method of treatment of this injury was by Desault's long splint, with the screw of T. Hewson Bache, by which to make extension, while a padded strap, passing between the limbs of the patient and fastened either to the head of the bedstead or to the upper end of the splint, served by pressure upon the perineum and groin to act as the means of counter-extension. This description carries us back nearly fifty years—even a little beyond the time of the simple and efficient device of applying strips of adhesive plaster to the sides of the limbs, by which to make the extension. Very few, if any, of you gentlemen are old enough to remember the difficulties, annoyances, and distresses which often attended the very best method of treatment in those days. So impressed was the elder Mott by these considerations that he said, "Should I chance to have a fractured thigh, I would prefer to be treated on the double-inclined plane," and many cases were so treated, not because of some peculiarity which demanded the flexed position, but simply to avoid the pains and annoyances of the other method. I need not take many minutes to tell you what these trials were. Remember we had no method of extension except the screw, and some sort of tie about the ankle—bandages, silk handkerchiefs, laced shoe, etc. Oh! the fatigue, the stiffness and pain of the ankle, and the frequent necessity of relaxation. Again, no screw could perform the duty of extension, unless it were watched continually, for all dressings and bandages relax speedily. Then, the padded strap pressing on the groin was not only irksome, but frequently caused deep ulcerations, necessitating its removal at all hazards. The elegant Professor George T. Elliot broke his femur in that epoch, and so determined was he not to have a shortened limb, that he suffered most heroically this procrustean method.

Previous to the introduction of the screw for extension, which I find mentioned in Brinton's Erichsen, 1854, the foot and ankle of the patient were tied to the lower end of the long splint, and the elongation of the limb effected only by pressing the splint toward the foot of the bed, and tightening the counter extending strap. The first great relief came when Josiah Crosby, with his Yankee shrewdness, made the strip of adhesive plaster do the pulling for extension, to which I have already alluded. The traction being from so large a surface, and the plaster being kept so nicely in place by the roller bandage and by the pressure of the side splints, the improvement over previous methods can only be imagined by those surgeons who came upon the stage later.

Still the screw—the worst feature of all—was retained. About this time my brother, Dr. William J. Burge, and I introduced to the profession an apparatus for the treatment of this injury. I will not describe it here. We have reason to feel highly gratified with its record at the New York Hospital, at Bellevue, and elsewhere. No such series of results had ever been published. Though the number was not large, the cases were sufficiently varied, and were under the inspection and supervision of the most vigilant surgeons. Among these were Drs. Valentine Mott, Frank H. Hamilton, James R. Wood, Gurdon Buck, John Watson, Willard Parker, E. Krackowizer, Zina Pitcher, Stephen Smith, and many others.[1] Dr. George F. Shrady, whom we all know as the able editor of the RECORD, was at that time house surgeon to the New York Hospital, and I take pleasure in referring to his impressions of our apparatus as written by himself in the *New York Journal of Medicine*, 1859, p. 383. You will naturally ask, "If this apparatus was a good thing, why is it not now in use?" Please remember that we were still handicapped by the pernicious screw, and though I characterize by such a title, even this was an improvement upon what had gone before, and still was not so universally known or acknowledged as to prevent Dr. James Spence, of Edinburgh, from publishing a work on surgery in 1871, in which not a word is said of any improvement upon the methods of Desault, Pott, Liston, and McIntyre.

There were, however, some features in our apparatus which we regard as of great value—the only one which I desire to speak of now, as related to my present purpose, was the attachment of a counter-extending strap to some point perpendicularly in front of the patient—between the pubes and the ceiling, so that it should not press upon the groin. This we effected by a bar across the bedstead about a foot above the body of the patient. So essential did we regard this apparatus to the best treatment of these fractures at the time of its introduction that we, at great personal inconvenience, undertook to direct its manufacture and to supply those surgeons who desired it.

Very soon after this the weight and pulley took the place of the screws. It seemed to come not as the invention of any one man, but as the most successful of all the experiments which were being tried by many surgeons about that time. In these experiments the surgeons and the internes of the New York Hospital were especially active, and none more so than Dr. Gurdon Buck, whose name is ever honorably associated with this last and greatest advance in the treatment of these injuries, not because of any claim to originality, but because he knew and recognized and popularized a good thing when he found it. I was surprised in looking over the private correspondence of Dr. F. H. Hamilton, as reported in the "Transactions of the American Medical Association," vol. x., to see a letter dated 1857, in which Dr. Joshua B. Flint, of Louisville, Ky., says, "I have used, and with much satisfaction in the fractures to which you refer, extension by means of the pulley, . . . with more comfort than attends any other equally effectual method of extension. I am more surprised when I reflect that it was several years later when the weight and pulley became general. The substitution of the weight and pulley for

[1] A paper read before the Brooklyn Surgical Society, April 16, 1890.

[1] See Hamilton's Report to American Medical Association, Transactions, vol. x.; also Hamilton on Fractures and Dislocations, New York Journal of Medicine, 1857 and 1858.

the screw so simplified the whole appliance that we felt justified in declining any longer to furnish our apparatus as an article of manufacture, especially as the principles involved in its construction could easily be extemporized by any good surgeon. The next phase in the history of this subject I regard as a most unfortunate one.

With the weight and pulley came a growing indifference to counter extension, and a disposition to depend for this upon the weight of the patient's body. The counter-extending strap, which the new method of extension had rendered tolerable, was strangely and very generally discarded, and every surgeon finding that his patient was continually slipping down in bed, more and more in proportion to the weight employed for extension, it was quite natural that raising the foot of the bed from four to ten inches should become almost universal. All this is as familiar to you as to me, but possibly I have observed the effect more accurately than some of you who have seen only the later practice. I am confident that laying aside the counter-extending band has resulted in an appreciable loss in the average length of the limbs that have been so treated. I am confident that raising the foot of the bed, is not only useless but deceptive, and therefore injurious. I am not prepared by any measurements for a careful comparison between the results of the old and the new methods—such measurements would obviously have been hard to get, and very unreliable. Besides, the propositions I make are demonstrable without them.

First, then, as to the body of the patient as a dependence for counter-extension. When you apply a weight that causes any serious discomfort the patient will work himself down in bed till your effort is neutralized, and, second, when he has made a firm resting place for his hips, and you apply ten, twelve, seldom fifteen, more seldom twenty pounds, you will generally find that the limb below the fracture weighs more than that, especially with the dressings, and consequently that no extension is made, one weight only balancing the other. Let me invite you when you have a case put up in the most approved modern style, to go to the patient quietly, and uncovering the limb sufficiently to observe the effect, raise carefully and slowly the entire weight of extension, in such a manner as not to attract his attention or to cause any spasmodic action of his muscles, and then tell me if there is the slightest retraction of the limb. By this simple inspection I think you will be convinced that the weight employed for extension is seldom more than enough to balance the weight of the limb below the point of fracture. Whether the foot of the bed is raised or not, the patient begs for and gets pillows enough to make him comfortable and settling himself into the mattress his body not only does not act as a counter-extending force but is, as you all know, everlastingly slipping down in proportion to the weight applied and the amount of discomfort produced thereby. Of course you have him pulled up, only to repeat the operation at your next visit. I have studied the effect so thoroughly that I heartily advise the restoration of the strap for counter-extension—attaching one end either to the upper extremity of the long splint or to the head of the bedstead, and the other to some fixed point above and in front of the patient's pelvis. Keep not only the bedstead, but the mattress level, and watch carefully the length of the limb and the effect of your extension. After the unreliable screw with its alternate overstrain and understrain was discarded, there was really no reason for dropping the counter-extending strap—all its painfulness was due to the screw, from the effect of which, when it was tightened, there was no escape until by wriggling and twisting the patient succeeded in rendering it of no avail till the surgeon came and wound him up again. *Now*, with the gentle and steady pull of the weight, the limb is effectively elongated, the perineum and tuber ischii strike the counter-extending band, and the body can slip down no lower. If the pressure become at all irksome the patient can draw himself up in bed and relieve it without the slightest harm, the weight and pulley making it certain that when the pelvis reaches again the level of the strap the lower fragment will have been drawn down as fast as the upper descended. This is not theory it is common sense and matter of daily observation.

But it is quite possible that some may question my premises, and may ask to be assured that the method of counter-extension for which I so strenuously plead has ever been to any great extent neglected. I hardly need do more than appeal to the personal observation of the last twenty years of those whom I now address. Dr. Stephen Smith, in his work on "Operative Surgery," advocates the weight and pulley, depending on the weight of the patient's body, with the foot of the bed raised from four to ten inches, *or* upon the perineal band for counter-extension, plainly leaving it to be inferred that he considers either plan efficient but gives the preference to the first mentioned.

Dr. Frank H. Hamilton, who has for more than thirty years been considered by almost everybody the highest authority on all questions pertaining to fractures, and whose words have doubtless ruled the practice of the great majority, says: "At Bellevue, where we use the weight and pulley a good deal, I seldom employ the perineal band as a means of counter extension, except in the case of children, relying *altogether* upon the weight of the body for this purpose, the foot of the bed being elevated always about four inches." Hamilton, in "Fractures and Dislocations" (1866), p. 416, and six years later, in his "Principles and Practice of Surgery" (1872), pp. 290, 297, 298, pictures the weight and pulley, leaving out of the illustration and the text all reference to any counter-exertion other than that which the weight of the body might produce.

One word in reference to the use of the perineal band. Holmes's "Surgery," p. 617, 1861, recognizes the importance of fastening one end of this band in such a manner as to avoid pressure on the groin. This was first done by Burge's apparatus in 1857, and several years later Dr. F. T. Lente, of Cold Spring, introduced a special splint mainly to effect the same object.

There are two historic facts which I desire to speak of as having an important bearing upon the subject before us. You are all aware of the valuable service which Professor F. H. Hamilton rendered to science in his report on the results of fractures,[1] showing that the average shortening in cases of oblique fracture of the femur in the adult, even in simple cases, was little less than an inch. Before that report was made surgeons generally felt that their reputation was more or less at stake if they failed to get a full length limb after treatment for this accident. I do not wish to intimate that any surgeon would, because of this knowledge, relax his effort to obtain the best possible result. The point which I desire to make is that this knowledge came just at the time when the screw was discarded and the weight and pulley substituted, and that this unparalleled improvement in the treatment of this fracture, although conducing immensely to the comfort of the patient, lost most of its advantages by the simultaneous neglect of the counter-extending strap and pad, and that the new knowledge acquired through Dr. Hamilton occasioned a general satisfaction with results which a few years earlier would have given rise to great anxiety. I do not take issue with Dr. Hamilton. I know that, as a rule, a shortening of three-fourths of an inch, in an oblique fracture of the femur, in the adult, is not a bad result; but I would warn, especially the young surgeon not to be satisfied with such measurements. We should strive to get full-length limbs, and surely with the present facilities we ought to succeed in approximating such a result oftener than was possible in the earlier days to which I have referred.

The other historic fact which I alluded to as having some special relation to this subject, is the discovery and demonstration by Professor Jarvis D. Wight, of this so-

[1] Transactions of the American Medical Association, vol. x.

ciety, that the long bones are not always, or even generally, of corresponding length on the right and on the left of the same individual. This is now, I believe, universally conceded, and I am sure none of us will doubt the value of this discovery, nor fail to avail himself of its application, if he chance to have a broken femur to treat which was originally three-fourths of an inch shorter than its fellow. It is said to be "a poor rule that won't work both ways." Let this knowledge, then, be an incentive to greater vigilance, lest the result of a fracture increase, on the one hand, a previously existing disparity, or, on the other, unnecessarily convert the longer into the shorter limb.

A CASE OF TUMORS OF THE FOURTH VENTRICLE WITH LEFT ANOPHTHALMUS.[1]

BY HENRY D. NOYES, M.D.,

AND

CHARLES L. DANA, M.D.,

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NOVEMBER 3, 1888.—Alphonse K——, aged thirty-seven, German, fresco-painter. Father died at age of sixty-four of some chronic throat trouble, sick for one year; mother died of carcinoma of uterus; two brothers died of infantile diseases; of two sisters, one died of typhus fever, the other in childbirth; three brothers living and in good health. Had diphtheria six years ago and was sick for a long time with it, no paralysis as a complication; had traumatic pleurisy one year ago in left side with effusion in chest, was sick for six weeks; has had no other sickness, no rheumatism, syphilis or malaria. In the month of January, 1873, was taken with severe headache, lasting for twenty-three days, when all headache went away and did not return until last February (1888). After the headache of 1873, began to see badly with left eye, the centre of field of vision appearing dark. This spot of darkness increased in area until 1875, at which time, being almost blind in that eye, under advice he had the eye enucleated and in it was found a large cysticercus cellulosæ. After the operation he suffered no more until last February, when he began to have headache of similar character to that of 1873 and in same part of head, that is, on *left* side. Since then has also had it on right side. The attacks of cephalalgia are intermittent, lasting usually four or five days and occurring in the forenoon; they are never absent longer than a week. A laxative usually relieves the headache. Since last February has been troubled with dizziness and roaring in both ears and numbness and tingling in right hand and arm and lately in right leg, though only to a slight degree; has felt weaker on that side. Worked up to last April, when weakness in right hand became so marked that he could not use a paint-brush without dropping it and gave up work. Says he never falls, though he staggers and is usually dizzy. Two years ago he fell down suddenly one day, striking on his head, was unconscious half an hour and was taken to a hospital, but went home the same afternoon and suffered nothing referable to the accident afterward.

Status presens (November 3, 1888): Patient is a well-nourished man. His left eye was enucleated in 1875, as above stated, by Professor Foerster, of Breslau, because of a cysticercus in the vitreous. He has paresis of the right rectus internus. His vision is normal, both for distance and near; field normal for colors and white light; pupil contracts in accommodation and on exposure to light; the ophthalmoscope shows the media and fundus to be normal. Hearing normal. Pulse, 80; temperature, 98° F. under the tongue. He distinguishes the two points of an æsthesiometer at 3 mm. on the fingers of both hands. Patellar reflex exaggerated on the right side, normal on the left; sensation conducted with normal rapidity. Dynamometer 65 with right hand, same with left. He states that he feels pain in the left occipital region when he squeezes the dynamometer with his right hand, but that there is no sensation when he uses his left hand. There is moderate complaint of pain when the left occipital region is tapped with the finger. He can move either leg easily, but when he walks quickly the right does not seem as well under control as the left; the step is shorter. Quick movements, either in walking or while sitting, are followed by attacks of vertigo which last about half a minute. His headaches are not continuous, but last about half an hour; he states that he sleeps only about two or three hours in the twenty-four. Stands with difficulty with his eyes closed; falls to the right side when he attempts to stand on the right foot, and with less promptness when standing on the left foot. Taste normal; appetite good; bowels move only by help of medicine; mind clear; temperature, $98\frac{5}{16}$° F.; pulse, 80.

November 5, 1888.—His vertigo has been severe. When standing he makes a motion with his toes as if trying to grasp the floor; headache is severe. Can walk only a short distance unsupported. Ordered iodide of potassium (which he has been taking for several months) and mercurial ointment.

On November 13, 1888, was admitted to New York Eye and Ear Infirmary where some of the above facts were elicited and was discharged November 17, 1888.

November 23, 1888.—Patient admitted into Bellevue Hospital, from the records of which institution part of the above history was taken. Patient says that his weakness and numbness are now more marked than formerly; bladder and rectum not invaded. Sensation and reflexes apparently not affected; both sides similar. Patient has been a drinker for years, but never to excess; been a moderate smoker. Has never been much exposed to varying degrees of temperature or to wet; has had no injury, except the fall of two years ago and blow on side fifteen months ago. Has been a painter for twenty-seven years. Does not remember having had an attack of painter's colic. Patient's gait at present time is that of a drunken man, though the staggering is chiefly to the right side, being of so-called "compelled" character; no rotatory movements. Attempts to turn to right side not so effectual as to left side. Discharged from Bellevue Hospital January 7, 1889.

January 13, 1889.—Patient came to the office of Dr. Cocks this morning assisted by his wife. His headaches and dizziness are less. He complains of a burning sensation in the right side of the face. Nystagmus, vertical and rotatory, is present. The external rectus of the stump of the left eye is paretic; fundus normal; V.O.D. $= \frac{20}{40}$; Jaeger 1 at 12 inches. Dynamometer, left hand, 63; right, 70.

January 31, 1889.—Patient, assisted by a friend, came to office. Paresis of both externi; right externus stronger than when first seen. Eyes move up and down; pupil reacts to light and in accommodation. Nystagmus more marked. No headache, but vertigo and want of co-ordination much more marked; speech thicker; swallows with great difficulty; left masseter weaker than the right; left temporal atrophic, so that the zygomatic arch is more marked than usual. Uvula hangs normally; has nasal catarrh. Pulse, 104; respiration, 20; temperature, $98\frac{1}{2}$° F. V.O.D. $= \frac{20}{200}$; fundus normal.

February 11, 1889.—Patient can walk only with assistance. V. $= \frac{20}{100}$; fundus normal; nystagmus marked. The movements of the eye are such as would be produced by contraction of the superior oblique. All objects seem to him to be moving. Absence of smell, and taste very much blunted. For the past eight days he has had the same sensations in the left side that he had one year ago in the right side; that is, pain in the end of the fingers, also in the back of the leg, knee, and foot.

February 12, 1889, 4.30 P.M.—Patient readmitted to Bellevue Hospital. At 9 o'clock of the same day had a convulsion, epileptiform in character, with both clonic and

[1] Read at the meeting of the New York Neurological Society, March, 1890.

tonic spasms. Conjunctival sensation present during the attack. No preceding aura and no frothing at mouth, no biting of tongue. Breathing arrested during tonic spasm, heavy and profound afterward, but not stertorous. No relaxation of sphincters. Says he had a similar attack on the forenoon of same day. Before and after the convulsions, which lasted about five minutes, patient showed marked vertical nystagmus, the movements were constant and more marked after convulsion.

February 13, 1889.—Patient having retention of urine from impassable traumatic stricture, about which no account had been given, was transferred to surgical division and operated on at 10 A.M. of the same day by perineal section. The retention of urine had existed for more than twenty-four hours. When admitted February 12th, could not walk without assistance, staggering was marked; much headache, dizziness, and tinnitus aurium.

February 16, 1889, patient died.

Autopsy revealed nothing to cause death from perineal section; heart, lungs, liver, spleen, and kidneys normal. Serous and mucous membranes healthy with the exception of evidences of old pleurisy. Brain showed three tumors in floor of fourth ventricle (Fig. 1) exerting some pressure on left middle peduncle of cerebellum. Sinuses and ventricles normal. Slight pachymeningitis interna fibrosa.

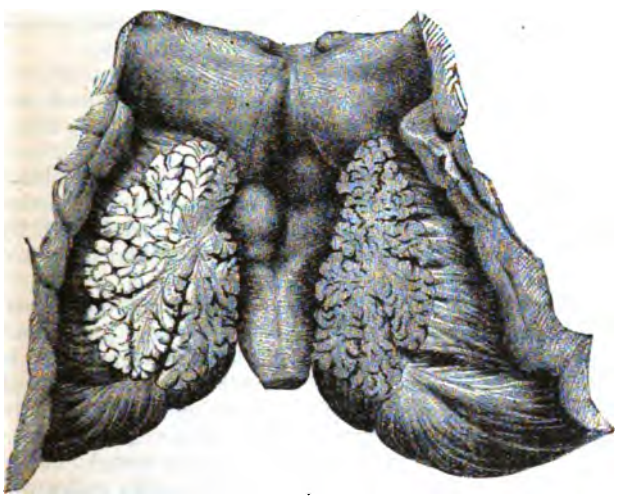

FIG. 1

The left optic nerve was very much smaller than the right, the former measuring 2 mm. and the latter 5 mm. in transverse diameter.

The optic tracts were very nearly equal in size, but the left was a trifle larger than the right.

The external geniculate body on the left side can hardly be made out, that on the right seems smaller than normal. There is post-mortem softening about the cerebral peduncle and neighborhood of the left external geniculate body, which may account for its non-appearance.

The two corpora quadrigemina anterior are of good size (6 mm. wide) the left apparently a trifle smaller.

On the floor of the medulla are three tumors, each about 16 mm. in diameter, arranged as follows: One is on the right and the other two on the left of the median line. That on the right is more anterior and extends from the middle of the pons to the posterior corpora quadrigemina. Of the two on the left side, the lower, larger, and more prominent extends from near the calamus scriptorius to near the level of the edge of the pons. It is intimately united with the third tumor, which is smaller and lies deeper and extends into the left half of the pons and middle cerebellar peduncle, and up almost as far as the posterior corpora quadrigemina.

Sections show that the tumors are well defined, but slightly infiltrating, and are rather superficially placed in the floor of the fourth ventricle. They are about 16 mm. in diameter and are sarcomatous in character.

A study of the occipital lobes shows them to be of nearly the same size.

Examination of Occipital Lobes.

MEASUREMENTS.[1]	Right occipital lobe.	Left occipital lobe.
	Ctm.	Ctm.
Parieto-occipital fissure to posterior tip of lobe..	6.5	6.5
Right cuneus to posterior boundary.....	4.0	3.5
Superior boundary.....	3.2	3.0
Inferior boundary.....	3.3	3.5
Circumference of occipital lobes around anterior occipital fissure and parieto-occipital fissure...	18.0	18.0
From anterior occipital fissure to tip of occipital lobe posteriorly.....	7.0	6.0

Microscopical Examination of Sections of Medulla, Pons, and Ganglia (Staining by Weigert's Method).—1. *Level of Lower Edge of Olivary Bodies.* Degenerative infiltration of central gray matter, especially on left side of central canal. Internal and external arcuate fibres on the left side deficient. A triangular patch of degenerated fibres in the ventral part of the interolivary tract on left side, extending laterally toward the olives. Left pyramidal tract sclerotic to some extent. Ventral part of raphe imperfect. The nuclei of twelfth nerve well defined.

2. *Level of Middle of Olives.* The infiltration affects the gray matter of the floor of the ventricle of the left side, and especially the neighborhood of the nucleus of the column of Goll. Degenerated fibres run in the external and internal arcuate fibres to the triangular patch in the interolivary tract. The ascending root of ninth and tenth nerves (solitary bundle) on the left side contains degenerated fibres. The left motor tract contains degenerated fibres. The twelfth nerve nuclei are still distinct. The raphe is poor in fibres.

3. *Level of Upper Third of Olivary Bodies.* The lowest of the tumors encroaches here on the floor and gray matter of medulla on the left side. The twelfth nerve and nuclei still can be seen, but the tenth nerve on the left side contains degenerated fibres and its nucleus is compressed and cells atrophied. There is a greater number of degenerated fibres in the left half of the interolivary tract, and at its ventral part is the same triangular patch of degenerated fibres. There are almost no raphe fibres running in from the left side. The left pyramidal tract is full of degenerated fibres; its nucleus is present on the left side.

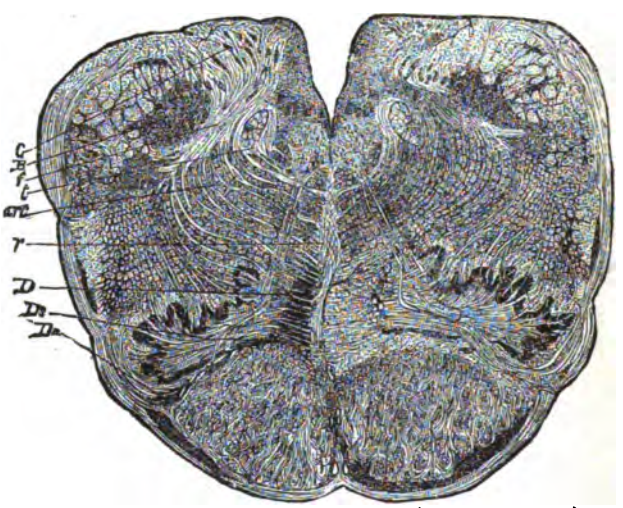

FIG. 2.—Case of Spitzka, Wood's "Reference Handbook," vol. viii., p. 166. The darkened area, D, in above cut shows the position of the degenerated area in our case, only it does not extend so far dorsally, and is somewhat smaller in extent.

[1] This shows no difference in the size of the two lobes. Nor would any be expected. The measurements were made, however, in view of the statement, afterward found to be incorrect, that the left eye was enucleated thirty years before death, during boyhood.—C. L. D.

The tumors had so infiltrated the pons and softened it that sections could not be made there.

From a study of the medulla it is seen that the left side tumors pressed upon the median lemniscus and caused in it a descending degeneration. This degeneration involved only its ventral part, but was diffused somewhat laterally. It extended down to the sensory decussation, but could not be well traced to the right or opposite nucleus of the column of Goll. The tumor also caused some degeneration by pressure on the left motor tract, and it injured and destroyed in part the nuclei of the left vagus, glossopharyngeal, and, probably, acoustic and fifth nerves.

Sections Made through the Anterior Corpora Quadrigemina.—The cells of the third nerve nucleus on the left side are few in number and atrophic. The nucleus on the right is normally distinct. The fibres from the posterior commissure are well defined on each side, also the descending root of fifth nerve. The fibres on the left side in the area of the lateral (lower) lemniscus seem less numerous and defined than on the right.

Microscopical Examination of the Optic Nerve and Tracts.—Sections were made through the optic decussation and at different points in the optic tracts on each side as far as their junction with the optic thalami and external geniculate bodies.

1. The sections in the decussation show a band of degenerated tissue crossing from the upper part of the left nerve to the lower part of the right tract.

2. Sections of the tracts show absolutely no degenerated fibres in the left tract, but a distinct band in the right, running superficially in its ventral part and apparently ending in the external geniculate body.[1]

Sections through the pulvinar of the optic thalamus show no distinct degenerative areas, though the right is less rich in fibres and cells than is the left side.

Summary.—Three tumors in floor of medulla, infiltrating and compressing and more or less destroying, left lemniscus, left pyramidal tract, left eighth, ninth, and tenth nuclei and nerves somewhat, left, and perhaps right, third nerve; probably fourth, sixth, and seventh nerves, but these parts could not be examined. Secondary degeneration downward of median part of lemniscus, and some degeneration upward of its lateral (lower) part. Some destruction of the ascending root of the ninth and tenth nerves. No positive change in occipital lobes. Degenerative strand from left optic nerve decussating completely into right optic tract and ending mostly in external geniculate body, partly in pulvinar.

Correlation of Symptoms to Lesions.—The oldest and most extensive process was on the left side. It began in the floor of the fourth ventricle at the level of the lower part of the pons. The first symptoms—vertigo and tinnitus—may have been due to irritation of the nuclei and deep fibres of origin of the vestibular and cochlear nerves (the bulbar vertigo described by Bastian).

The paræsthesia of the right side of the body was due to pressure upon and irritation of the sensory tracts (the lemniscus and formatio reticularis) by this left side tumor.

The hemiparesis of right side was due to the deeper infiltration of the tumors pressing on the left motor tract in the pons and medulla. There was more ataxia than pain, or anæsthesia or paralysis on the right side, and the examination showed the lemniscus (the tract for muscular sensations) to be involved.

The forced movements to the right were probably due to the involvement of the left middle cerebellar peduncle by the tumor.

The burning sensations in the right side of the face and the paresis of the left masseter and temporal were due to involvement of the fifth nerve. The dysphagia is explained by the disorganization of the ninth and tenth nerve nuclei.

[1] This corresponds with St. Bernheimer's description of the position of the crossed fibres. Neurolog. Centralbl., 1889.

The apparent total decussation of the optic nerve I [Noyes] can only explain by saying that even in man this does occasionally occur.

The decussating band of degenerated fibres appeared to go to the external geniculate body chiefly, and less to the pulvinar.

The ocular symptoms were due to involvement of, first, the sixth nerve on the right side, then of branches of third nerve to levator palpebræ,[1] then of both sixth nerves, then of irritation of fourth nerve, and of nuclei of third nerve to superior and inferior recti (rotatory and vertical nystagmus).

The ciliary muscle and iris were not involved. If there were, as the notes stated, early ptosis it would be in harmony with the arrangement of the third nerve nuclei as given by Hensen and Völckers, for there could not have been ptosis before involvement of the superior and inferior recti unless the nuclei of the levatores palpebrarum were situated more posteriorly than is stated in later tables.[2]

Wernicke has reported a case of tumor of the fourth ventricle in which there was this same order of phenomena, viz., first paralysis of the sixth nerve, and then ptosis, before other branches of the third were affected.

In a case of probable tumor of the fourth ventricle, reported by Barry and Bramwell, there was ptosis and paralysis of the superior and inferior recti, then of the internal recti.

Suckling has also reported a case of external ophthalmoplegia with ptosis, and paralysis of the superior and inferior recti, and right internus. This could be explained by Hensen and Völcker's arrangement, and by Starr's, but not by Kahler and Pick's.

Wernecke has reported a case of tumor of the fourth ventricle, with paralysis of the sixth nerve and ptosis, and this falls in with Hensen and Völcker's arrangement. It seems likely, at least, that the nucleus for the levator of the lid is a long one, perhaps overlapping the others.

The frequency of tumors of the brain-axis (pons medulla) is somewhat greater than is usually stated. They make up twelve per cent. of Putnam-Jacobi's collection of 649 cases, fourteen per cent. of Mills and Lloyd's 100 cases, and about the same proportion of Bernhardt's cases.

Apart from the value of our case as a contribution to the clinical history of tumors of the brain axis, it has some features of special interest. It shows apparently a total decussation of optic nerve-fibres. It shows certainly that the theory of the pinching of healthy fibres by a degenerated tract at a decussation does not cause degeneration in these healthy fibres, at the optic commissure at any rate. The course of the degenerated strand to the external geniculate body accords with V. Monakow's theory that the afferent tracts in the optic nerve-paths pass to this body, and that atrophy in the geniculate bodies follows enucleation of the eyes. The eye symptoms indicate perhaps a longer nucleus for the levator palpebræ than has been supposed.

The secondary degeneration downward of part of the lemniscus confirms the fact already established that this tract, though sensory, does degenerate a short way downward (cases of Spitzka, Homen, Meyer). The fact that the degeneration becomes gradually less as it descends, and does not certainly reach the nucleus of the column of Goll, shows that it is not rapid or complete, as happens when the degeneration follows the direction in which the tract carries impulses. It is more like such a degeneration as follows when one cuts off an axis cylinder process of a nerve-cell.

[1] The statement that there was early and marked ptosis is not trustworthy.

[2] Hensen and Volcker's arrangement of the ocular muscle nuclei is: Ciliary muscles, sphincter iridis, rectus internus, rectus superior, levator palpebræ, rectus inferior, obliquus inferior. Kahler and Pick's arrangement is: Ciliary muscle, sphincter iridis, lavator palpebræ, rect-internus, rect-superior, rect-inferior, obliquus inferior, obliquus superior (fourth). Starr's modification of this is: Sphincter iridis, ciliary muscle, levator palpebræ, rectus internus, rectus superior, rectus inferior, obliquus inferior.

TROPHO-NEUROTIC KERATITIS.[1]

By KENT K. WHEELOCK, M.D.,

PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY IN FORT WAYNE COLLEGE OF MEDICINE.

My attention was first called to this class of cases some three years ago, while treating a case of herpes zoster ophthalmicus. The corneal ulcer in that case was central, and despite the ordinary cleansing solutions applied to the eye, hot fomentations, bandaging, etc., the ulcer extended in depth and circumference. Other conditions were also present, consequent upon irido-cyclitis plastica with hypopion, which it is not necessary to say more about. After the treatment usual in such cases had been followed a few days, the eyeball began to feel cold, as though it were a ball of ice. At this time I tested the corneal sensibility, and to my astonishment found that it was practically anæsthetic. I then applied one pole of the faradic battery to the base of the cranium and the other over the eyeball, and carried the strength of the current to the point of easy toleration and continued this for about fifteen minutes. After this use of the current the sensation of coldness passed away, and after the fourth application sensation returned to a large area of the cornea. Especially was this true of the lower segment of the cornea. My belief was then, and is now, that herpes zoster is a disease limited to the ganglionic nerve-enlargements in general, and in this especial case to the Gasserian ganglion in particular. My reasons for believing the lesion to lie in the Gasserian ganglion are based upon the general physiology of the spinal ganglia and upon the experimental physiological action of the Gasserian ganglion.

"The remarkable anatomical peculiarity of the posterior roots . . . is the presence of a ganglion. While we have no distinct idea of the function of these ganglia in connection with the transmission of impressions from the periphery to the centres, it has been shown that they have a remarkable influence upon the nutrition of the nerves after their division" (Flint).

According to Waller, when the roots are divided between the ganglion and the cord, the central end of the anterior root attached to the cord preserves its normal structure, while the peripheral end in a few days becomes degenerated; the tubes are filled with granular matter, etc., and, in short, undergoes those changes observed in all nerves separated from their centres. On the other hand, in the posterior roots the end attached to the cord undergoes degeneration, and the peripheral end—the one to which the ganglion is attached—preserves its normal histological character.

Bernard concluded from the above, and somewhat extended experiments, that the ganglia of the posterior roots have an influence over the nutrition of the sensitive nerves. Flint suggests that these points show the spinal ganglia to be trophic centres. It has been shown by Schiff that after division of the posterior roots beyond the ganglia the anterior roots contain altered fibres, which he believes to come from the posterior roots.

It is agreed, therefore, that the ganglia of the sensitive roots of the spinal nerves are the trophic centres of the sensitive spinal nerves, and that while traumatic herpes zoster produces phenomena essentially similar to the idiopathic, yet the lesion in the latter probably lies in the ganglia.

Since the observation of this case, and feeling that the pathology is practically located, I have made a practice of examining the corneal sensibility in all cases of corneal and conjunctival ulceration presenting certain definite characteristics. These characteristics may perhaps be better appreciated if the history of the cases is detailed.

CASE I.—Charles K——, a German, aged fifty-five, a machinist by trade, called upon his family physician to have his right eye examined as, he thought a piece of emery had gotten in it. The result of the examination, made by a very careful and competent man, revealed the fact that while there might be some foreign substance on the cornea, it had more the appearance of being sprinkled with fine sand or dust, and the case was referred to me.

At the first visit the complaint was of a feeling of sand in the eye. The pain was not much, and only of an occasional scratching. The eye was only irritable and the photophobia slight. The patient suffered very little conjunctival irritation compared with the extent of corneal lesion. Besides the appearance of sand on the cornea there was a grayish infiltration, shading off into perfectly clear corneal tissue at the peripheric areas.

I prescribed a two per cent. solution of boracic acid and a one per cent. solution of atropia, with the result of not improving the condition within twenty-four hours. At the second or third visit the notable absence of photophobia and lachrymation, as compared with the evident denudation of corneal epithelium, led me to test the corneal sensibility. I found it practically anæsthetic centrally, and this anæsthesia corresponded to the greatest corneal erosion. I then applied the Faradic current, as it was all I had at command, and after fifteen minutes the corneal sensibility was acute. Treatment was continued for some time. At each application the corneal anæsthesia passed away, but the restored sensibility would not remain till the next treatment. Strychnia was given, together with quinia, but the patient finally passed out of my hands. Tension was — 2 at least.

CASE II.—Kate S——, aged nineteen, large, well-made girl, farmer's daughter, and working at woman's work on a farm, consulted me December 9th of last year for a trouble of the left eye. The eye was somewhat irritable; little or no redness of the circumcorneal tissue, and no pain. There was a deep infiltration at the central part of the cornea, with a gray nebular infiltration shading off into clear tissue at the circumference of the cornea. The infiltrated area proper covered nearly one-half of the cornea. My diagnosis was non-inflammatory interstitial keratitis, so miscalled, and I treated it for a few days as such. At a subsequent visit it was observed that the epithelium began to break down, leaving the appearance of an ordinary septic ulcer. Still there was no pain, and not only was there no redness but the sclerotic shone through the conjunctiva with abnormal clearness. A twisted spill of cotton brushed over the cornea showed absolute loss of sensation in central parts of the cornea, while it varied in degree as the clearer tissue was reached. The patient was immediately put upon strychnia and electricity. The electrical stimulation brought about immediate results by restoring sensibility where before it had been partially lost, and making the central parts of the cornea sensitive where before they had been insensible. The eye soon became irritable, blood-vessels ran from the conjunctiva up to the ulcer; the ulcer began to diminish in circumference and depth, and after over two months' treatment daily with electricity and strychnia, sensation has practically returned and the original ulcer area has only a thin, almost invisible nebulous superficial striation, with a small opacity at the centre, which is at present eroded before the use of the electrical current. After the use of the current for a period of fifteen minutes the cornea is clear, lustrous, and to the eye normal as to epithelial covering. At times, varying with the varying degrees of performance of physiological function of the fifth nerve, the photophobia, lachrymation, and pain become intense and last twelve or fifteen hours. At such times the corneal sensation is complete, and the case has to be treated as an ordinary septic ulcer.

CASE III.—J. A. H——, aged twenty-eight, telegraph operator, a strong well-made man, consulted me, March 12th of the present year. On March 7th was struck in left eye with a small twig of a dry weed while driving through a field. The pain was quite severe at the time, but passed away. Patient complained of a constant irritation, as though there were a foreign substance under the upper lid. Upon inspection cornea presented an irregular triangular area, with apex toward centre. The epithe-

[1] Read before the Fort Wayne Academy of Medicine, March 4, 1890.

lium was eroded and the border of area nebulous. A dossil of cotton brushed on cornea and conjunctiva corresponding to this wedge-shaped erosion showed marked loss of sensibility amounting almost to anæsthesia. The circumcorneal injection was slight. Faradic current markedly increased sensation, at same time restored lustre to cornea and made erosions invisible. Strychnia was also employed. Tension subnormal. This patient lived thirty miles away, and has been seen but once since first visit. No particular improvement was noticed.

As far as I am acquainted with the literature, this class of cases was first brought to notice by Dr. J. L. Minor, reporting them from the clinic of Professor H. D. Noyes, at the New York Eye and Ear Infirmary, and published in the *American Journal of the Medical Sciences* for July, 1881, under the caption "Anæsthesia of the Cornea," etc. In his smaller work, as well as in his recent larger one, Noyes classifies these cases as neuro-paralytic ulcers. This is manifestly incorrect, since many of these cases are not characterized by an ulcerative process in any respect, and never become so. The name neuro-paralytic ulcer should, in my opinion, be confined to those cases represented by gross brain-lesion, or where both the trophic and sensitive fibres of the fifth nerve are involved, so that we have facial hemianæsthesia as well as disturbances of the trophic fibres. Noyes claims a malarial origin for some of his cases and cured them with quinine, while others were not benefited by this drug. Those responding to quinine were associated with supraorbital neuralgia. None of my three cases presented this neuralgic element; in fact the cases were remarkable for the absence of all pain of a severe character. We are justified in naming the ganglion of Gasser as the seat of disease in this class of cases. According to Kölliker the sensitive fibres from the fifth nerve pass through the ganglion and do not unite with the ganglion cells. Landois thinks the unipolar cells give off fibres which supply the cornea through the ciliary nerves. Magendie observed that intracranial section of the fifth nerve resulted in inflammation and necrosis of the cornea and subsequent loss of the eye. The trophic fibres seem to come from the most internal portion of the ganglion, and when section is made through the ganglion, so as to include these fibres, there is loss of sensation with subsequent ulceration. The prognosis in these cases is good, provided the element of time be regarded as a therapeutical agent. Cases of malarial origin offer the most flattering results.

Treatment must necessarily look to restoration of function of the nerve, and this is best accomplished through the stimulating influence of the constant current supplemented by strychnia. The iodides and mercurials may do good in certain cases. As to local treatment the bandage will do good by restraining the motility of the eyeball, and thus preserve the new epithelial tissue developed in process of repair, and further in preventing multiplication of septic germs which might otherwise find a lodging-place in the broken tissue. Hot-water compresses assist in stimulating the growth of epithelial cells, while antiseptic solutions may appeal to our religious aspirations to approach holiness.

Mechanism of Respiration in the New-born.—Dohen, from a study of this subject at the clinic of Königsberg, reaches the following conclusions: 1. The respiration of the new-born is thoracic. 2. The elevation of the thorax begins at the summit and descends progressively. 3. The tidal air averages 35 c.c., and reaches a maximum of 120 c.c. 4. The exchange of air is feeble in the first days after birth; at the end of the first week is a third larger than the first day. 5. Generally at the first inspiration the lungs are not filled with air, the alveoli unfolding only on the second day (a fact of medico legal importance). 6. The respiratory curves of the new-born present no stationary points.—*The Brooklyn Medical Journal.*

URINE WITH HIGH SPECIFIC GRAVITY.[1]

By J. H. LINSLEY, M.D.,

NEW YORK.

Ellen B——, Irish; single; aged twenty-five. Her mother died of heart disease; the father, three brothers, and one sister, of phthisis. The patient herself has always enjoyed good health.

February 23, 1890.—Her present illness began two weeks ago. She complains of headache, anorexia, dulness, and general malaise. There has been no well-marked chill; temperature, 101.5°, pulse, 112, respiration, 20. Physical examination of the chest and abdomen is negative. The patient was sent to bed, and ordered a cathartic dose of sulphate of magnesium.

February 24th.—Temperature, A.M., 102°; pulse, 112; temperature, P.M., 102.8°; pulse, 116.

February 25th.—Temperature, A.M., 103°; pulse, 120; temperature, P.M., 103.8°; pulse, 120. At 8 P.M. she was given phenacetin, gr. x. At 10 P.M., temperature, 99.8°; pulse, 100.

February 26th.—Temperature, A.M., 103°; P.M., 103.8°; pulse, 120.

February 27th.—Temperature, A.M., 103.4°; P.M., 104.5°; pulse, 120.

February 28th.—Temperature, A.M., 104.3°; P.M., 104.2°; pulse, 116. On this date the urine was examined; specific gravity, 1050; reaction, acid; color, reddish yellow; odor, fetid; consistence, limpid. It was cloudy, and had a white or slightly flesh-colored precipitate. The quantity of urea was .0033 grm. per cubic centimetre, or 3.3 per cent. The chlorides were diminished; while the phosphates were enormously increased. Microscopical examination showed pavement epithelium, uric acid, amorphous phosphates, and the ordinary bacteria.

The interest in the case centres upon the high specific gravity, with the proportionately small amount of urea. Supposing the quantity of urine voided to have been 1,500 c.c., the quantity of urea would have been 49 grammes, the normal quantity being thirty to forty grammes for the twenty-four hours. The exact quantity of urine was not known, although considerably below the normal.

Another curious fact was the presence in the same precipitate of uric acid and amorphous phosphates. The excess of phosphates (which formed the precipitate) could be cleared up by adding a few drops of nitric acid; while upon the addition to the urine of a small quantity of liquor potassæ or ammonium hydrate, an enormous quantity of phosphates was precipitated. I have not had time to consult the literature on the subject to determine the rarity of this case; but in three thousand consecutive examinations of urine, I have never seen any such condition as this, and on consulting with several of our pathologists, I have ascertained that, in their experience, no such specific gravity has been reached in urine free from sugar. The specific gravity was not only taken with a urinometer carefully tested and corrected, but also with a Mohr-Westphal balance at 15° C.

Since February 28th (the date on which the urine was examined), up to the present time, her temperature has ranged from 100° to 104°, and the pulse has always been above 100. She has had no eruption on the abdomen, and no marked symptoms of typhoid; in fact, an examination of all the organs was negative. The specific gravity of the urine has not fallen as yet below 1030 in any one specimen examined, and an excess of phosphates has continued.

41 East Twenty-first Street, March 12, 1890.

Asitia is a word employed to denote abstinence from food. It has recently come into frequent use in accounts of Succi, the Italian fasting man, who lately exhibited himself in London.

[1] Reported to the New York Pathological Society, March 12, 1890.

Clinical Department.

FRACTURES OF THE MAXILLARY BONES.

By WILLIAM F. EDGAR, M.D.,

LOS ANGELES, CAL.

THE following case occurred some twenty years ago, but has never before been reported:

I. S— , a hardy middle-aged frontiersman and bear-hunter, went, on or about March 17, 1871, out in the Tejon Mountains, in Southern California, in pursuit of bears, and having reached the desired locality, dismounted, tied his horse, and started off, rifle in hand, on a narrow path or trail through the brush, but within a hundred yards or so, suddenly met, face to face, a large grizzly. So close together did they come, indeed, he said, that he did not have time to take deliberate aim but threw the muzzle of his rifle, as quickly as he could, against the body of the bear and fired. The shot did not kill the bear outright but only caused him to "bat his eyes (blink) and stagger," but he immediately raised upon his hind feet and struck the hunter with the right paw, raking him from left to right, across the chest, tearing the flesh so as to expose some of the ribs and part of the sternum and bringing him down, when the beast took his face in his mouth, lacerating the flesh and crushing the lower jaw, then he let go his hold of the face and the hunter managed to turn face downward. Then the bear bit him in the back, with less damage, however, but in doing so tore off a piece of the hunter's coat, which hung to one of his tusks and this frightened him away. The hunter did not lose his presence of mind, and as soon as he felt assured that his enemy had left him, he raised himself upon a stone near by, where he sat a few minutes and then reached his rifle which was near, and by its aid, raised himself to his feet, and bleeding and hatless, started back on the trail for his horse, and on reaching a point some seventy-five or eighty yards from the place of encounter, he came upon the dead body of the bear. After reaching his horse he said that he came near giving up in despair, as his horse would not permit him to mount, not recognizing him, as he was bloody and could not speak. He, however, finally succeeded in mounting without the rifle and struck for camp, some three miles distant, where he arrived after dark, when his companions put him into a common road wagon and started over a rough mountain road for Los Angeles, about one hundred miles distant. They travelled all that night, all next day, and until ten o'clock at night of that day, when they reached the Sisters' Hospital of this city and I and the late Dr. N. P. Richardson were summoned to his assistance.

We found the patient very much exhausted, as he had been about thirty hours without food, water, or sleep, and the inferior maxilla fractured in three places, besides terrible lacerations of the flesh. On the left side near the ramus there was an oblique fracture, and on the same side, just in front of the mental foramen another fracture, transverse, and on the right side a transverse fracture, between the second bicuspid and first molar tooth.

Opposite each fracture there was a deep laceration of the soft parts, the effect of the animal's tusks. At the fracture near the ramus on the left side, the flesh and beard had been pushed into the mouth, inverted like the finger of a glove, and the first thing done toward repair was the restoration of the soft parts in this locality as far as possible, and then we commenced to adjust and secure the fragments of broken bones with silver wire twisted around adjacent teeth as the best temporary means, at least, in view of the exhausted condition of the patient, and after administering such stimulating and nourishing fluids as was necessary, applied the usual support to the jaw and left him till the following morning (Sunday) when we found that the contractions of the digastric, mylo-hyoid, genio-hyoid, and other muscles connecting the front and central fragment of bone with the os-hyoides had drawn the teeth, which were small and rather conical, out of the wire loops and that the patient was but little if any better off than when we first saw him. We then got a dentist to make a thin malleable silver plate, perforated with holes opposite the teeth, and this was applied and secured to the fragments with silver wire, and with some feeling of encouragement that we had a retaining apparatus and with the usual external support to the jaw, we left the patient till evening.

At our evening visit we became very much dissatisfied with our apparatus but concluded to risk it till the next morning (Monday), when we might be able to call in some dental assistance if needed. At our morning visit we found the pale and fractured bones again nearly disconnected, and concluded that drilling and wiring the fragments together was the only and last resort that offered the patient any chance for recovery, and we called in two of the principal dentists in the place, Drs. French and Crawford, and after sufficient consultation Dr. Crawford, upon solicitation, drilled a hole through the end of each fragment of bone just below the line of the bottom of the alveolar processes and put a small silver wire through each hole and drew them together on the outside, and after proper adjustment and coaptation, twisted them firmly together. At the fracture on the left side, near the foramen, the first bicuspid had to be drawn, as a proper adjustment could not be made there in consequence of the loss of a small wedge-shaped piece of the bone, leaving a small notch at the root of the tooth. After the adjustment of the splint and external support of the jaw, it was found that the opening made by the drawing of the bicuspid tooth, together with the smallness of the corresponding tooth in the superior maxilla, was just what was needed, as through it nutritive fluids were taken in freely, at first by inserting the small end of a funnel into it but as the quantity was sometimes greater than the patient desired, a small piece of soft rubber tube a foot long was adjusted to the end of the funnel, which being inserted into the mouth instead of the end of the funnel and being grasped between the thumb and fore-finger of the patient, the quantity he desired to swallow at once was perfectly regulated. No anæsthetic was given the patient during any of these operations and he complained very little. Between two and three weeks the external support to the jaw was removed and the patient could talk very well, and between three and five weeks the wires were gradually removed and at about the end of eight weeks he left the hospital with a good jaw. The scars were soon hidden by the growing beard, and the best evidence that his personal appearance was not seriously marred was that he got married a few months after leaving the hospital.

Progress of Medical Science.

Acute Œdema Glottidis after Potassium Iodide.—Cases of this nature are few in number, and one reported by Dr. Groenouw may be quoted. A strong, healthy man, forty-three years of age, suffering from optic atrophy, and with the urine quite free from albumin and sugar, was treated with the iodide of potassium in the form of a watery solution, in doses of seven to fifteen grains thrice daily. On the afternoon of the second day, when he had taken about forty grains of salt, he complained of a feeling of rawness, with pain on swallowing, localized in the right side of the larynx. These symptoms, which were not by any means prominent, were not more pronounced on the evening of the sixth day, after the use of a little over three drachms of iodide. The same night, after two hours quiet sleep, the patient awoke, began to cough, and noticed suddenly that although the expiration was free, the inspiration was difficult, and he felt as if a valve were in the throat. The difficulty lessened in the space of two hours, and he slept again, the dyspnœa having quite disappeared by next morning. In the after-

noon, on examination, the right ventricular band was œdematous, as also the mucous membrane over the arytenoid cartilage and the ary-epiglottic ligament. After an intermission of two days, the iodide was resumed; and although the dose was a full one, no further symptoms of iodism appeared. In spite of the severity of the attack tolerance was established. The iodide of potassium given was exactly the same as other patients were using, and it is not likely that the symptoms were due to impurity of the drug. Groenouw observed a similar case two years ago in a woman sixty-six years of age, who was the subject of a moderately enlarged thyroid, but without difficulty of breathing, and was suffering from oculomotor palsy of one eye, for which iodide of potassium was prescribed in small doses. After seven grains, severe coryza and conjunctivitis, with great dyspnœa and loss of voice, came on. Examinations showed marked pharyngeal catarrh and evident swelling and redness of the ventricular bands. Three days later, when the symptoms subsided, four grains were given daily for three days; but on being increased to twice daily there appeared—more or less every time—hoarseness, difficulty of swallowing, and pain in the head. The drug was accordingly stopped for four days, and then the patient took about four grains daily, diluted with much water, the dose being gradually increased in the course of the next two weeks to fifteen grains a day. On attaining this amount, it had to be reduced on account of pain in the throat and general restlessness; and seven days later it was discontinued altogether. Groenouw thinks the following conclusions may be drawn: After the administration of iodide of potassium, there occurs in certain rare cases great dyspnœa due to œdema of the glottis, sometimes so extreme as to demand rapid tracheotomy. It does not arise from long use or large doses—relatively small amounts have hitherto induced it; and other symptoms of iodism, such as headache, are wanting. The action is local upon the larynx, not part of a general œdema. Its cause is certainly the iodide, not the potassium, and it cannot be ascribed to any impurity. No local or general diseased state, for instance, cardiac or renal disease, can be recognized; and the cause must be looked for rather in an idiosyncrasy of the individual, although even this is not by any means absolute, as a complete tolerance may be established after a few days pause.—*The Practitioner*, June, 1890.

Recent Remedies Employed in Pertussis.—Dr. Stepp has published a second article on the treatment of whooping-cough with bromoform. In one hundred cases treated there was not a single failure. He gives the bromoform pure in one-drop doses in a teaspoonful of water. On account of its high specific gravity the bromoform sinks to the bottom of the spoon, and there forms an isolated drop. The teaspoon should then be carried well back into the mouth, and its contents rapidly swallowed. The dose, given three or four times daily, varies as follows: For children of three to four weeks, one drop; in older, nursing children, three drops, according to the intensity of the attack; in children of two to four years of age, four or five drops; up to seven years of age, six to seven drops. Dr. Stepp claims diminution of vomiting, shortening of attacks, and increased appetite, with a perfect cure in from two to three weeks. But a small quantity of bromoform should be ordered at a time, as it is volatile. Protect it from the light to prevent decomposition. Red bromoform should be rejected, as it is decomposed and contains free bromine, and is consequently unsuited for administration. Dr. Rothe warmly recommends, for children of from one to two years of age, iodo-phenol in whooping-cough, administered after the following method: Phenic acid, 1 gramme; alcohol, 1 gramme; tincture of iodine, 10 drops; tincture of belladonna, 2 grammes; peppermint water, 50 grammes; syrup of white poppies, 10 grammes. Mix. One teaspoonful for a dose. Older children in proportion. Hydrate of turpentine is also favorably mentioned. It forms large, colorless, odorless, rhombic crystals with a weak aromatic taste, and easily soluble in hot water. Lepine first recommended it in 1885 as having a similar action to oil of turpentine, without the unpleasant effects. In small doses (three to nine grains) it acted on the bronchial mucous membrane, and was found useful in chronic catarrh. In large doses, it diminished secretion, and was given with excellent results in bronchorrhœa. When the kidneys were healthy, no evil result followed; but when those organs were diseased, large doses produced hæmaturia and albuminuria. Later, Germain Sée, who gave large doses to animals without harm, and to man as much as thirty grains daily in alcoholic solution as pill, praised the good effects of the hydrate in the initial catarrh of phthisis, where it lessened secretion; and he recommended it as a hæmostatic in bleeding from the lungs. In this opinion he has been confirmed by Lazarus. Recently Manasse has made careful trials of it in forty-one cases of pertussis. To children under a year, daily doses of over twenty grains were given without ill effects upon the renal or digestive organs. In none of the urines of older children examined, after amounts of thirty-five to forty-five grains daily, was albumin or blood found. The ages of the patients ranged from nine months to twelve years. The general result was, that after four to five days' use of turpentine hydrate (twenty to forty-five grains, according to the age of the child), there was lessening of the attacks—at all events they became much mitigated. In all the cases there was bronchial catarrh, which improved more rapidly than usual and soon entirely disappeared.

Oil of Turpentine Treated with Potassium Hydroxide in Catarrhal Affections of the Air-passages.—Dr. Kogelmann had repeatedly tried inhalations of the vapor of ethereal oils, especially oil of turpentine, in commencing catarrh of the nasal cavities, but always without effect, the cold taking its course. In December last, having taken cold in an evening walk in cloudy, damp weather, he tried an inhalation of the vapor of oil of turpentine treated with potassium hydroxide, with surprisingly good results. He had mixed in a flask for some chemical work nine volumes of rectified oil of turpentine, one volume of ordinary petroleum, and one volume of an alcoholic solution of potassium hydroxide (one pint by weight of caustic potash in five pints by weight of absolute alcohol). The mixture was well shaken and allowed to settle. It was inhaled, the nose being held close to the mouth of the flask, for five long breaths, every quarter of an hour. After five or six repetitions the cold was completely relieved. As a matter of precaution, the inhalation was repeated on the three following days. Whether the presence of petroleum is useful, or whether it is necessary to use so concentrated a solution of potash, or whether, as is very probable, the sodium hydroxide would act as well, he has not determined. Oil of turpentine treated in this manner is free from any trace of acid formed by oxidation, and possibly in this consists its advantage over ordinary turpentine. Lastly, it may be mentioned that this mixture had been standing, for about fourteen days before it was used, in a half-filled flask, but never exposed to direct sunlight.—*London Medical Recorder.*

Temporary Stammering Caused by Tonsillitis.—Dr. H. Rainsford reports in the *British Medical Journal*, of May 3, 1890, the case of a young woman who consulted him on account of a subacute tonsillitis with slight febrile symptoms; she could not then speak a word without stuttering badly. When she was convalescent, she asked me if the stammering would cease when her throat was well, for she said that she could speak as well as anyone before the quinsy came on. A favorable prognosis was given, and after a week on bromide she could speak almost as well as ever. The author thinks the case a rare one, and asks whether the stammering was not due to loss of power of co-ordination of laryngeal muscles from reflex causes. There was no alteration in the sound of the voice, indicating that the larynx was free from inflammation.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, July 26, 1890.

COWS' MILK AND TUBERCULOSIS.

WE have repeatedly had occasion to point out the possibility, nay, probability, of spreading consumption through the agency of the flesh and milk of tuberculous cattle. There is no good reason why the various Boards of Health should not devise practical measures for the abatement of the grave menace to the health of an unenlightened and unsuspecting community implied in the continued sale of disease-tainted flesh and milk. There is enough evidence at hand now to warrant energetic interference.

In the *New York Times* of recent date we find a timely exposition of this subject, under the suggestive title of "Advice and Warning." The article refers to a letter published in Hartford by a well-known veterinarian. In that letter there was given the history of one herd of cattle numbering two hundred and forty animals, fifty per cent. of which died of tuberculosis in two years.

"Certainly a startling fact, and it becomes still more so when we consider that the milk from the sick and dying cattle was daily peddled to customers in North and South Norwalk." New legislation was urgently needed, this veterinarian declared, for the protection of the people. "The question involves in a vital way one of our chief food products. Milk is sold from tuberculous cattle, and such cattle are killed and sold as beef every day. The offspring of such cattle are sold to the sausage-manufacturer, and even the older and sick animals themselves. Should not the laws protect us from such ignorance or cupidity?"

The *Times* says that since the publication of Dr. Gardner's letter "the Connecticut Commissioners on the Diseases of Domesticated Animals—Messrs. E. H. Hyde, T. S. Gold, and J. W. Alsop—have published a circular of warning and advice, addressed to the owners of cattle. This action deserves attention in this city, because a part of our milk supply is brought from Connecticut. Moreover, it is an indication of the interest now beginning to be shown by public officers everywhere in a question of the gravest importance—interest that will eventually cause the enactment of salutary laws to prevent the poisoning of the people by dairymen and butchers who are ignorant or dishonest. The Commissioners say, at the beginning of their circular, that the discoveries of modern science have so important a bearing upon the public health that the well-established facts in regard to tuberculosis, commonly called consumption, should be disseminated as widely as possible. Some of the statements and instructions of the Commissioners may be found below:

"The facts are well settled, not only that tuberculosis is a communicable disease, but also that it occurs in many animals—especially in the human and bovine races—and is intercommunicable between them. The time is coming when some strict sanitary rules will be adopted in all cases of human tuberculosis. The necessity for this is generally admitted. The time has already come for the stock-owner to exercise watchful care over the health of his herds. The soundness of all purchased animals should be carefully investigated, as well as their antecedents. A consumptive person should never have charge of cattle. An attendant may contract the disease from them or give it to them. The flesh of tuberculous animals is dangerous as food; hence there is no use in trying to fatten them for beef. In milch cows, in addition to the common danger of contagion, the milk is unsafe for food, even for swine or poultry, and it only remains for the owner of a tuberculous subject to meet the loss promptly and slaughter the animal before others contract the disease.

"We do not wish to appear as alarmists, and create any unnecessary excitement among farmers or consumers of any products, yet we deem it prudent to exercise caution and be on the safe side, where also lies true economy, and would advise that all animals that are thriftless and show the symptoms of tuberculosis be destroyed, though the disease may not have progressed to the degree of rendering the animal apparently worthless.

"The prevention of the spread of tuberculosis and the eradication of the existing cases depend upon the cattle-owners themselves, and on them rests the responsibility, which is grave indeed, as so vitally affecting the welfare of both man and beast. Therefore this commission does not consider that the State should exercise the same authority over tuberculosis as in the case of contagious pleuro-pneumonia and slaughter infected or suspected animals at the public expense. Yet the Commissioners consider it their duty to investigate all cases of suspected contagious disease, to control the same, as far as possible, by advice and authority, for the preservation of the public health, as well as the material interests of agriculture, and in accordance with these views issue this notice of warning and advice."

We cannot do better than reproduce the comment of the *Times* on the whole subject, which is to this effect:

"But if the danger be so great why should not the State take action for the protection of consumers who are exposed to it? If it be expedient for the State to prevent by legislation and inspection the sale of milk that has been adulterated with water, ought not the sale of milk that carries the germs of consumption to be prevented in like manner? Must the people be content with such action as owners of herds may take in response to a circular of advice and warning? The admissions of the Connecticut Commissioners concerning the danger of infection are so important that a recommendation for the exercise of the State's police power should accompany them. But if they will continue to issue circulars of this kind some good will be accomplished, for such warnings

tend to make the people familiar with the facts, and a general dissemination of these will surely cause the enactment of such laws as are needed."

THE PAYMENT OF TRAINED NURSES.

An active controversy has been going on in the columns of the *New York Medical Journal* as to whether trained nurses should receive wages while in course of training. The profession of nursing is one of those rare and fortunate ones wherein the pupil gets very well paid for the work which she does in getting the education that afterward secures for her a very remunerative means of livelihood. Dr. J. West Roosevelt maintains, if we understand his position, that hospitals ought not to pay the trained nurses any more than the laws of supply and demand compel them to do in order to get good material for their classes and for the care of the wards. In other words, the same principle should be applied here that is applied to the medical staff of dispensaries and hospitals. The young medical men do work here which is severe and trying, and involves special knowledge and skill, but they are not paid, because hospital managers know that good hospital internes can be got for nothing.

It is perhaps a question whether a good quality of nurses can be obtained without paying them, and Mr. Ludlam, a superintendent of one of the hospitals of the city, seems to favor a continuance of the present plan. But the application of strict business principles ought, we think, to apply to all departments of hospital management; and if good nurses can be obtained for nothing, the hospital authorities have no right, on sentimental grounds, to pay salaries when salaries are not necessary. If sentimentalism is allowed to rule in the management, however, the house physicians are entitled to their share.

INSANITY PROCEEDING FROM THE COLON.

Few general practitioners will agree with the eye-specialist who stated that he had rejected as mere superstition the prevalent views concerning the importance of securing thorough action of the bowels in sickness. While it is true that some persons are much more affected by the occurrence of constipation than others, it is also true that the health of a large part of the human race is greatly influenced by the state of the intestinal functions. As someone has expressed it, one of the best preparations for active life is a good set of bowels. Probably the worst indictment that can be brought against our modern system of education is that it cultivates in the boys and girls a habit of intestinal sluggishness—by compelling them to hurry off in the morning to school, and to repress the desire for stool—by producing feebleness of muscle and passive congestion of pelvic organs as the result of long sitting and want of physical exercise. This habit is, in men, sometimes corrected by the out-door labors of after-life; but in women, especially those of the wealthier classes, it is confirmed by confinement indoors and want of muscular exercise. The important part which intestinal inactivity (glandular as well as muscular) bears in the causation of sickness is witnessed by the fact that purgatives are among the remedies most frequently taken. Probably no other class of drugs is so called for.

It will be readily admitted that many of the milder affections of the nervous system may be caused by excessive and long-continued accumulation of fæces in the large intestine, or rather by the abnormal state of the system which permits or arises from such an accumulation. Since the discovery of the nature and poisonous influences of ptomaïnes, and kindred bodies, and of their formation in certain abnormal conditions of the digestive tract, the dangers of accumulation of fecal matters in the large intestine have been more generally understood. That insanity could be due to such a cause could not be admitted without direct proof.

In the *Alienist and Neurologist*, January, 1890, Dr. Moyer relates three cases in which grave mental disturbance seemed to be due to disorder of the colon, with accumulation of fæces in it, and was cured by emptying of this organ.

In the first case, a married woman, without inherited or acquired neurotic tendency, and in every way healthy, had, eighteen months before, begun to suffer from obstinate constipation, loss of appetite, general debility, and loss of flesh. At the end of six months occasional attacks of fainting were observed, the attacks beginning with pain in the left hypochondrium and a sense of suffocation. During the last six months the attacks became more frequent, and were attended by vomiting. There was tenderness in the region mentioned, but there was no fever. The patient gradually developed marked symptoms of insanity, restlessness, sleeplessness, incoherence, confusional hallucinations, and non-systematic delusions of a depressed and melancholic character. Upon examination there was found great wasting of muscles and fatty tissues, contraction of flexor tendons of the thigh, weakness and irregularity of the pulse. The skin was dirty-brown, and covered with branny scales. The eyes, heart, lungs, kidneys, and sexual organs seemed normal after careful examination. There was no fever. The mental symptoms were as described. Upon the abdomen a line of superficial dulness extended transversely across on a level with the umbilicus, and in the left inguinal region a lobulated mass could be felt, indistinctly outlined. A copious rectal injection of water, containing two ounces of listerine and one drachm of common salt to the pint, was given by means of a tube passed well beyond the sigmoid flexure. Upon removal of the tube it was found to be coated at the end with dark, waxy, adhesive fecal matter, unlike that which had been washed away. After ten daily injections, which brought away each time portions of this hardened mass, the bowels had begun to move easily, the mind had become clear, the appetite had greatly improved, and the patient had, in every way, entered upon convalescence.

In the second case, a constipated, debilitated, panophobic melancholic, with suicidal tendencies, who had refused food for months, and had required artificial feeding, was treated with a large injection, which relieved him of an immense quantity of stored-up fæces. He ran away, and shortly afterward wrote an intelligent letter for his clothing.

A third case is related in which a young man, of neurotic tendency, who had become morose, suspicious, and quarrelsome, was completely restored to health by a

rectal injection which brought away a large mass of dark, tarry, offensive fæces.

Two important suggestions are made: that accumulation of fæces is not disproved by the occurrence of free passages, and that treatment should be by large, repeated, high injections, purgatives doing only harm.

GONOCOCCI IN NON-SPECIFIC URETHRITIS.

PROFESSOR STRAUS has recently recorded an instance of gonococci detected in the urethral discharge from a youth aged sixteen, who had never had sexual relations with any woman, but who was addicted to masturbation from the age of twelve. Two days after indulging this habit to an unusual extent severe pain during micturition ensued. It was followed by well-marked symptoms of blennorrhagia. The discharge contained gonococci absolutely similar to those found in the pus of a patient suffering from ordinary blennorrhagia. According to the *British Medical Journal* this case would show that Neisser's gonococcus may exist as a simple saprophyte, and that by means of slight irritation it may invade the epithelium and determine characteristic catarrh.

It will be remembered that, several years ago, Dr. E. C. Wendt reported the occurrence in the scrapings of healthy male urethras of microbes in all respects similar to true gonococci.

The final proof of the identity of these organisms with Neisser's micrococci, by the inoculation of pure cultures, is wanting both in the observations of Dr. Wendt and Professor Straus.

News of the Week.

The First Case of Extirpation of the Seminal Vesicles.—Dr. E. Ullmann, of Vienna, reports in the *Centralblatt für Chirurgie*, the first case of extirpation of the seminal vesicles. In a boy, aged seventeen years, castration was performed on the right side owing to tuberculosis of the epididymis, and a considerable swelling and solidity of the right vesicula seminalis was noticed at that time. Two months later extirpation of the vesiculæ seminales was performed in Professor Albert's clinic. Starting from the perineum, the anterior wall of the rectum was detached; both the vesiculæ seminales and the right vas deferens were removed. Perfect recovery followed. Dr. Ullmann recommends this operation in primary tuberculosis of the epididymis when the epididymis of the other side is healthy, and the vesiculæ seminales tuberculous; also in primary tuberculosis of the vesiculæ seminales.—*British Medical Journal.*

Treatment of Goitre.—Professor Mosetig von Moorhof, of Vienna, recommends injections of iodoform (iodoform, 1; ether, 5; olive-oil, 9; or iodoform, 1; ether and oil of olives, of each, 7 parts) in parenchymatous goître. When from 1 to 2 grammes of this mixture are injected from five to ten times at intervals of three or four days, a decrease in the size of the neck of from two to four centimetres invariably occurred in 79 cases so treated. In substernal goîtres it is sufficient to make the injections into the suprasternal part. The advantages of this method, as compared with parenchymatous injections of iodine, are that inflammatory complications never occur. Suppuration has never been observed in Professor Moorhof's cases.

A Curious Delusion.—A Birmingham man, while under the influence of drink, knocked off his great toe with a hammer, imagining that he was cutting his throat with a carving-knife.

Death from Nitrous Oxide.—The first death in Canada under nitrous oxide is reported from Montreal. A man, aged twenty-four, went to the office of a dentist to have a tooth extracted, and requested to have nitrous oxide administered. After assuring himself that the patient was not suffering from heart or lung disease, the dentist administered the gas. No sooner had the tooth been extracted than the patient gave a gasp and fell over in the chair. He was placed upon the floor and artificial respiration performed, but without restoring animation. The patient was not under the influence of liquor, and five hours had elapsed since last taking food (breakfast). The purity of the nitrous oxide was tested shortly after the accident by the President of the Dental Association, Dr. Beers, who himself inhaled it from the same inhaler. The verdict of the jury was that the man died from syncope, caused by the administration of the gas, and they exonerated the dentist from blame.

"**A Specialist,**" says Dr. Collins, of London, "without general knowledge, realizes the ideal of the grammarian who, on his death-bed, lamented that, instead of dissipating his energy over the whole of etymology, he had not restricted his studies to the accusative case."

The Contagiousness of Leprosy.—Dr. Hansen, the well-known leprosy expert, is fully persuaded of the contagiousness of leprosy, and of the efficacy of hygiene and isolation for its suppression. He attributes the immunity of the Norwegians in America to their adoption of habits of greater cleanliness and their improved social state. That there are instances of contagion, well authenticated, is an absolute fact; even Boeck, anti-contagionist as he was, met with such an instance when in America. But there are conditions and limits to the contagion; probably it occurs only through inoculation, and, like syphilis, it may be transmitted from parent to child, as well as by personal intercourse in later life.

The Epsom Medical College, says the London correspondent of *The Occidental Medical Times*, is an institution unique in its way. It gives home and pensions to a number of members of the medical profession who have failed in the battle of life; but its most important work is the maintenance of a first-class boys' school. It is, in fact, a public school, with a medical foundation—*i.e.*, there are a number of scholarships for the sons of medical men who are educated for a nominal sum, just as at Eton and many other of the great public schools, there are "foundation scholarships." The vast majority of the boys, however, pay the full usual fees, and the parents of many of them belong to other professions than medicine. On leaving school, a considerable proportion of the boys have recently been successful in obtaining scholarships at Oxford, Cambridge, and the London Medical Schools.

Mississippi Valley Medical Association.—Dr. Frank Woodbury, of Philadelphia, will read a paper, and Dr. John A. Wyeth, of New York, has consented to deliver the address before the Mississippi Valley Medical Association at its annual meeting in Louisville, October 8, 1890. Quite a number of prominent medical men in the Mississippi Valley have given in titles of papers to be read, and promised to attend and take part in discussions. A large and profitable meeting is already assured.

The Alvarenga Prize of the College of Physicians of Philadelphia, consisting of one year's income of the bequest of the late Señor Alvarenga, of Lisbon, has been awarded to Dr. R. W. Philip, of the Victoria Dispensary for Consumption and Diseases of the Chest, Edinburgh, for his Essay on Pulmonary Tuberculosis, which will be published by the College.

A Curious Malformation of the Female Urethra.—Dr. D. Tod Gilliam, of Columbus, O., writes: "In your issue of July 12th, Dr. Alexander W. Stein gives a schematic drawing of a congenital malformation of the urethra in a male which tallies so perfectly with one I discovered a few months since in a female, that I feel it my duty to place it on record. The patient, aged about twenty-six, was taken with strangury and retention of urine, and her sufferings were so intense that I was sent for. Being occupied, I sent my son, who is quite expert in the use of the catheter, and upon his return I was much surprised to learn that he had failed to relieve the patient. I immediately repaired to the house, and although the urethra seemed patulous, I also failed to reach the bladder. I now administered chloroform, and upon digital examination found at the posterior third of the urethra a condition identical with that figured in the cut above mentioned. The apposed surfaces, however, seemed to be adherent, and separated with a sensation similar to that of a recently united incised wound. Bloody urine followed the withdrawal of the finger. As the woman was a mistress and her liege was suspected of having administered cantharides, I attributed the dysuria to the latter, but not the malformation."

Registration without Examination.—By a recent decision in Harrisburg, Pa., the physicians of Pennsylvania who have practised three years under the law are entitled to registration as apothecaries without examination.

A Young Smoker.—There is a child in Trenton, N. J., four years of age, who has smoked tobacco since he was seven months of age. He is quoted as a remarkable instance of hereditary taint, and was weaned early by the proud mother in order that he might give full bent to his taste. A little daily counter-irritation in the shape of spanking might turn the thoughts of this youthful monster in another and better direction.

The New Jersey Medical Law Bad for Hotel Practitioners.—Many New York and Pennsylvania doctors are indignant over the Medical Examination Law of this State, which went into effect on July 4th. The law, unless on a test case it be found unconstitutional, will prevent doctors from outside of New Jersey from practising at the summer resorts of the State. It requires that every physician seeking to practise within the limits of New Jersey after its passage must submit to a formal examination by State officers. The following exemptions only are made: "Commissioned surgeons of the United States army, navy, or marine hospital service, or regularly licensed physicians or surgeons actually called from other States or Territories to attend cases in New Jersey." Physicians called in consultation or summoned to attend special cases were thus relieved of the necessity of passing an examination. All others, however, including the hundreds from New York who reside in the big hotels or cottages at the sea-shore, or inland towns of Jersey, during the summer, or own their own homes there, are precluded from practising in the State. Even in case of an urgent sick call a New York physician would, it is thought, violate the law if he prescribed medicine or gave advice in the case, unless he had been examined by the local authorities. Practice in violation of the law is punishable by a fine of $50 to $100, or imprisonment for ten to ninety days, or both.

A Hospital for Consumptives.—Steps are being taken by many prominent citizens of Philadelphia to found a hospital for consumptives in that city.

Are People Buried Alive?—A sensational item is going the rounds of the daily press to the effect that physicians are convinced that many persons are annually buried alive. Nonsense! Where are your facts, gentlemen?

Privileged Testimony.—A physician who, contrary to all law and gospel, recently gave his testimony in a suit for divorce, charging his patient, the wife, with unchastity, was very properly rebuked by the judge, and his testimony promptly ruled out.

Death of Dr. James H. Patterson.—Dr. James H. Patterson, the County Clerk of Monmouth County, N. J., died at midnight Friday, at his home, in Shrewsbury, aged fifty-three. Dr. Patterson was one of the best known physicians of the shore district of New Jersey. His wife and two grown up daughters survive him.

New York State Medical Association.—The eighth special meeting of the Fifth District Branch of this Association was held in the city of Kingston, N. Y., July 22d. Papers were read by Dr. Thomas H. Manley, on "Pathological Changes from Traumatisms of Spine," and on "Acute Suppurative Pleurisy," by Dr. J. D. Sullivan; also the recital of a "Strange Case," by Dr. J. G. Porteus. Upon the adjournment of the meeting the members took an excursion to the Hotel Kaaterskill, Catskill Mountains, and were the guests of Mr. Harding, the proprietor. There was a large attendance of members and a profitable meeting.

Lister as the Genius of Surgery.—The new Policlinic in Rome will have its two façades adorned with bass-reliefs in illustration of the modern genius of medicine: John Baptist Morgagni, representing pathological research, and Sir Joseph Lister surgical treatment. Designs for the bass-reliefs in question have been sent in by twenty-one competing sculptors, and are this week on view in the Scuola Vittorino da Feltre, in the Via della Polveriara. The number of designs is thirty-six, several artists having submitted more than one to the "Comitato Aggiudicatrice." The committee, which is composed of an equal representation of fine art and medicine, under the presidency of Dr. Guido Baccelli, has no easy task before it, as the competitors include the acknowledged masters of sculpture in Italy.—*The Lancet.*

Society Reports.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-sixth Annual Meeting, held at Hotel Kaaterskill, Catskill Mountains, N. Y., July 16 and 17, 1890.

THE Society was called to order by the president, DR. HASKET DERBY, of Boston.

Brain Tumor with Interesting Eye Symptoms.—The first paper was that of DR. W. F. NORRIS, of Philadelphia, reporting two cases of "Brain Tumor with Interesting Eye Symptoms."

CASE I.—Mrs. X——, aged thirty-two, a strong and vigorous woman, was seen in June, 1889. During last few months there had been failing eyesight, no double vision, movements of lid and ocular muscles good. Right pupil responded promptly to light. The left was slower in its response and was larger than the right. The ophthalmoscope showed a low grade of hypermetropia and hypermetropia astigmatism. Disks normal. The field of vision in left eye was defective in upper outer quadrant. In the right eye the defect was in the upper and inner quadrant, but not so marked.

April 4th.—Had a slight convulsion. She began to have pain referred to the right side of the head and eye.

May 6th.—Right optic disk beginning to be hazy and slightly prominent. Left disk also swollen. Both pupils sluggish. Twitching of muscles of shoulder. Increased headache, nausea without vomiting. Diplopia was first noted May 18th. She was seen by Drs. William Osler and S. Weir Mitchell in consultation and diagnosis of a tumor of the base, probably near the optic thalamus, was made.

June 3d.—There was a convulsion followed by nystagmus. Death occurred July 5th. The diagnosis was confirmed by the autopsy, microscopical examination showed the characteristic appearance of glioma.

CASE II.— Mrs. Y——, seen in January, 1889. She had lost the sight of one eye and was rapidly losing that of the other. A year previously she was seized with deafness in the right ear. Six months later she had an attack of severe pain in the right trigeminus. Later there was double vision and gradual failure of sight. The right eye was slightly prominent, the pupil semi-dilated and irresponsive to light. There was paralysis of the external rectus muscle. There was in the right eye a dense grayish haze of the retina, most marked about the nerve. The disk was slightly in advance of the retinal level. In the left eye vision was diminished and there was a semi-transparent haze in front of the disk. There was loss of smell on the right side of the nose, and the skin and mucous membrane on this side were less sensitive than on the other. There was absolute deafness on the right side. Six days after this observation vision in the left eye was entirely lost. The patient then returned to her home. There was increased suffering from headache and intense neuralgia in the superior and inferior dental nerves, especially on the right side. A few days before death the right eye became so prominent that the lids could not close over it. June 10th, the patient became comatose and died.

The autopsy showed a large, firm tumor occupying the sella turcica, extending on each side along the wings of the sphenoid, especially on the right side, and also toward the base of the skull. The growth was a carcinoma, and involved the second, third, fourth, fifth, sixth, seventh, and eighth nerves on the right side, and the second and third on the left side.

Intracranial Neoplasm.—DR. CHARLES A. OLIVER, of Philadelphia, gave the history of a case of "Intracranial Neoplasm with Localizing Eye Symptoms, Position of Tumor Verified at Autopsy." The patient, a male adult, presented general symptoms of right hemiplegia and right hemianæsthesia. When first seen by the writer there was right lateral homonymous hemianopsia, the left field of vision being the smaller, with well-marked Wernicke hemiopic pupillary reaction sign. In the remaining field there were floating scotomata for green, more pronounced on the left side, with slight subnormal color perception, also more marked in the left field. In the right fundus there was a broad, superficial blotch like hemorrhage, extending over the lower outer quadrant of the disk, with enlargement and tortuosity of both the retinal veins and the arteries of the same side.

This grouping of symptoms led to a diagnosis of a gross intracranial lesion near or in the left optic thalamus. Autopsy, four weeks later, showed a glio-sarcoma involving the external portion of the left optic thalamus as well as the corpus striatum almost as far as its anterior third. The left optic tract as far forward as the optic chiasm was markedly flattened and pressed upon.

Transient Amblyopia with Bitemporal Hemianopsia in a Case of Malarial Cachexia, read by DR. G. C. HARLAN, of Philadelphia. A sailor, aged twenty-two, was admitted to the hospital September 2, 1889, with severe chills and fever. During the following month he exhibited varied nervous symptoms, headache, mania, hallucinations, etc. Quinine was given without any effect, with the exception of preventing a recurrence of the chills.

November 14th.—There was diminution of sight, and the patient could see only in front. Vision existed only in the nasal fields.

November 18th.—Patient was entirely blind. The next day there was some return of vision. Microscopic examination of the urine showed pigmented corpuscles in great number. Quinine, twenty-four grains daily, caused rapid improvement. Vision rapidly returned and on the 24th was normal. By the 30th the pigmented corpuscles had disappeared. There was no return of the symptoms.

The Extraction of Dislocated Lenses from the Eye, whether Transparent or Cataractous, a paper by DR. C. S. BULL, of New York. The author maintained that in the majority of cases it was possible to extract a lens dislocated into the vitreous by external manipulation without the introduction of any instrument into the eye. The manipulation may be described as follows: The lids are held open by a wire speculum, and the section made upward with a narrow knife. The speculum is then removed and the upper lid lifted away from the ball with a wire elevator. Pressure is then made against the lower part of the eyeball, the pressure being made directly backward. The lens will be seen to rise and appear at the pupil. Sometimes it comes through the pupil, but occasionally the use of a blunt hook or wire spoon becomes necessary. If continued pressure fail to push the lens through the pupil or occasions prolapse of the vitreous, some other method must be substituted. For a number of years he had not found it necessary to introduce a spoon into the vitreous chamber to remove a dislocated lens floating in the vitreous.

Simple Operation for Cataract.—Dr. Bull also presented some further considerations on the "Simple Operation for the Extraction of Cataract." The paper was based upon some one hundred and sixty cases of cataract extraction without iridectomy. The method of operation and the complications liable to arise were discussed in detail. The advantages claimed were: 1, If successful without complication, the natural appearance of the eye is preserved; 2, the acuteness of vision is greater than with the older operation; 3, eccentric vision is decidedly better; 4, small particles of the capsule are less likely to be incarcerated in the wound; 5, it is a shorter operation in point of time; 6, as there is no iridectomy, there is little or no hemorrhage.

The disadvantages are that the technique is more difficult than that of the old operation, the corneal section must be larger; the section must be performed rapidly, and there is danger of the iris falling upon the knife; the cleansing of the pupillary space and posterior chamber is more difficult; posterior synechia, and incarceration and

prolapse of iris is more common. The operation is not applicable to all cases.

Double Zonular Cataract.—Dr. Hasket Derby, of Boston, reported eight cases of double zonular cataract among ten members of the same family.

Removal of a Large Exostosis of the Orbit with Preservation of the Eye, a paper by Dr. T. R. Pooley, of New York. The patient was an Irish girl, aged twenty-three, who came under observation August 21, 1888. Two years before, she had noticed protrusion of the right eyeball. At the upper inner angle of the orbit a hard tumor could be felt. A diagnosis of orbital exostosis was made and confirmed by exploratory incision. The patient then disappeared until February 6, 1890, when she returned with pronounced optic neuritis. V. = $\frac{20}{cc}$. Next day there was great pain in and about the orbit with rise of temperature and mild delirium. Exophthalmos was increased and immediate operation urged. The tumor was then removed by the use of the chisel, the mallet not being required. The bony growth measured 39 × 28 × 30 millimetres and weighed 26 grammes. The patient was discharged at the end of three weeks and vision gradually increased to $\frac{20}{xl}$, and all evidence of neuritis disappeared.

Operation for Ectropion of the Lower Lid by the Sliding Flap Method was the title of another paper by Dr. Pooley. The object of the communication was to show the adaptability of this operation for the relief of cicatricial contraction. The patient was a woman suffering with ectropion resulting from cicatricial contraction following the removal of epithelioma of the lower lid. The conjunctiva to the cul-de-sac was exposed. A flap was slid from the temporal region to fill the gap in the lower lid. The patient was discharged two weeks later with a perfect result.

Case of a Foreign Body Remaining in the Eye about Twenty Years, followed by Abscess in the Scleral Wall; Opened and Recovery, a paper by Dr. B. L. Millikin, of Cleveland, O. On March 18, 1871, E. M. O——, aged ten, was struck in the right eye with a bit of musket cap, which he supposed at the time did not enter the eye. Following the injury the eye was greatly inflamed, confining him to his room for nearly three months. The eye gave no further trouble, and vision was fair until 1883, when he had an attack of severe inflammation in it. The eye again improved, with fair vision, and remained well until 1887, when it again became red and painful, with failure of sight.

The patient was seen for the first time February 28, 1888. Three or four days before, another attack of inflammation had occurred. The cornea showed a linear opacity. Behind this was a slit in the iris. The ophthalmoscope showed an oblique track directly through the body of the lens. In the anterior portion of the vitreous was plainly seen a grayish-white body projecting into the vitreous. This had the appearance of an encysted body. Vision in right eye = $\frac{6}{36}$, in left eye $\frac{6}{6}$. There was tenderness on pressure over the position of the body.

September, 1889, he had another severe inflammatory attack, but was not seen until November 27th. Under active treatment the inflammation subsided.

In December an enlargement appeared over the position of the foreign body and rapidly increased in size.

January 14th.—The eyeball was free from any general inflammation, but the projection over the foreign body had increased in size. Under cocaine a needle was passed through the swelling and came in contact with a hard body. A triangular portion of the conjunctiva was then dissected off and an incision made into the swelling. Three or four drops of pus escaped. With a spoon a number of hard black particles were scraped out. As much as possible of the interior of the sac was removed with the spoon, forceps, and scissors. The sclera was at least a centimetre thick at this point. The eye recovered without a bad symptom, the body previously seen in the vitreous chamber had disappeared. By January 22d V. = $\frac{3}{36}$. Since the operation there has been no return of the inflammatory attack.

Foreign Body in the Orbit was the title of a paper by Dr. W. F. Norris, of Philadelphia, Pa.

Case I.—T. R——, came under observation on account of pain in the left forehead and orbit. The eyeball of that side was wanting. The orbit was filled with a mass sensitive to the touch and at the bottom of the cavity was an opening discharging pus. The probe detected a hard body. Patient had been struck eighteen months before by an exploding railroad torpedo, shattering the left eye, which was enucleated by a surgeon, but the orbit had never healed. The patient was etherized and a large piece of metal which had formed the shell of the torpedo was removed by forceps.

Case II.—P. B——, aged forty-seven, was struck in the eye by a piece of nail which flew from a piece of wood he was sawing with a circular saw. Some days after the accident he came to the hospital. There was an opening through the lower lid and the sclerotic conjunctiva. A minute black point was seen projecting from the eye, which was found to be metallic, and on removal it proved to be a piece of nail three-fourths of an inch in length.

Complete Paralysis of the Lateral Movements of Both Eyes, Ability to Converge Remaining Intact, by Dr. B. L. Millikin, of Cleveland, O.

M. McL——, aged thirty-three, Irish laborer, presented himself March 21, 1890. Twelve years ago first noticed that he saw things double, but this passed off in a short time. This occurred occasionally since then. For the past few weeks had been much annoyed by the double images. The patient has been addicted to the excessive use of alcohol, but denies syphilis. In each eye V. = $\frac{6}{6}$. When winking, the left eye does not close as rapidly as the right. The eyes follow an object carried up and down in front of them, but in no position of the field can the eyes be seen to move laterally. When the eyes fix an object and this is carried toward the eyes, they are seen to converge so that the object may be carried to within seven or eight inches of the eyes, pupillary reaction is normal. Each optic disk was small, round, with a narrow choroidal ring, slightly deepened pearly color, and slight degree of H. There were no nervous symptoms and no history of previous illness. Ten grains of iodide of potassium three times daily was ordered, but only a few doses taken. By April 4th the lateral movement of the right eye seemed normal and that of the left eye was improving. The patient then passed from observation.

AMERICAN OTOLOGICAL SOCIETY.

Twenty-third Annual Meeting, held at the Hotel Kaaterskill, Catskill Mountains, N. Y., July 15, 1890.

Oren D. Pomeroy, M.D., President, in the Chair.

Mastoid Sclerosis.—The first paper read was entitled "Mastoid Sclerosis, as Illustrated by a Typical and Fatal Case," by Dr. Huntington Richards, of New York.

The patient, a man, aged twenty-six, came under observation March 8, 1890. Eleven months before a large polypus had been removed from the left auditory canal. The symptoms noted March 8th were earache and headache, with some mastoid tenderness. There was apparently a cicatricial drum-membrane, greatly depressed. There was an opening in it about three millimetres in diameter. A small polypus projected through the opening. A dose of calomel was ordered and Bacon's artificial leech, followed by frequent douching, was advised. It was at this time deemed probable that an operation on the mastoid would be required. Four days later the drum-membrane had become prominent. A Politzer inflation greatly increased the prominence. There was no redness or stenosis of the wall of the auditory canal. The

drum-membrane was adherent to structures posterior by a line along its middle, dividing the prominence into two portions. Three days later a portion of one of these prominences was removed by the snare. Three days later still (18th), the auditory canal was much stenosed. There was swelling and tenderness in front of the ear, and some tenderness over the mastoid tip. The artificial leech was again applied with benefit.

May 1st.—A polypus that had formed was removed.

May 3d.—There was again mastoid tenderness. Discharge became profuse.

May 5th.—The mastoid was operated on, but no trace of pus or of any true antrum was found.

May 10th.—The temperature rose to 104.2° F. and the patient complained of violent headache.

May 12th.—The attempt was made to extend the opening forward toward the tympanum by the use of Volkmann's spoon, without result. The opening was then enlarged by chisel and rongeur forceps, until it became funnel-shaped, measuring 27 mm. in depth and 27 × 20 mm. in width. No antrum was discovered and no recognizable drum cavity was opened, and no accumulation of pus tapped. The day following the operation muttering delirium set in, with diplopia, and some slight convulsive movements of the orbital and facial muscles. Complete ptosis of the left eyelid and persistent tonic contraction of the muscles of the right side of the neck. The patient continued to fail, and died at 4.30 P.M., unquestionably of diffuse meningitis, and, not improbably, there was an intra-cranial abscess. No post-mortem could be obtained. It is possible, though far from certain, that an early and thorough operation for removal of the ossicles and pus-confining membrane would have accomplished what the two mastoid operations failed to do, viz., adequate outlet for pus, etc., and consequent saving of life.

In his paper the author urged the adoption of the expression "vault of the tympanum," or "fornix tympani," to designate that portion of the drum cavity above the upper border of the tympanic ring. This term is quite as appropriate as is the half-facetious, though conveniently brief "attic" of several recent writers. As to a supposed, and most erroneously supposed, Latin equivalent of the latter, viz., "atticus," it is hardly necessary to say that it is wholly inadmissible on linguistic grounds, there being no noun "atticus" in the Latin language, save the adjectival substantive used to designate an Athenian citizen. "Atticus" is not, never was, and cannot now be made the Latin term for a garret, attic, or upper story of a house.

Septum Resembling Tympanal Membrane.—DR. S. THEOBALD, of Baltimore, reported a case in which a septum, closely resembling the tympanal membrane, formed in the middle third of the external auditory canal and was removed with improvement to hearing. The septum, which was present only in the right ear, was about six millimetres nearer the outer extremity of the auditory canal than was the tympanal membrane of the opposite ear. It evidently had no connection with the ossicles, but moved out when the middle ear was inflated by the Valsalva method, and moved in again during the act of swallowing. There was a history of double otorrhœa in childhood. After excision of the septum it was found that the tympanal membrane proper was entirely destroyed, but the stapes and malleus were recognized *in situ*. The mucous membrane of the tympanal cavity was sclerosed and atrophied. A marked improvement of hearing followed immediately upon the removal of the septum. Further improvement was subsequently gained by inserting an artificial (cotton) drum-head. The hearing, which before the operation was equal to distinguishing words in a loud voice at twenty feet, was improved to words in a low voice and whisper at twenty feet. The septum showed a decided tendency to re-formation which had to be controlled by the application of chromic acid and a second resort to the knife.

Discussion.—THE PRESIDENT: These membranes forming in the external canal have for their end a reparative action. I saw such a membrane form in a case of my own where there had been otorrhœa with loss of most of the drum-membrane for fifteen years. The discharge ceased under treatment, and there was the formation of a new membrane similar to that described by Dr. Theobald, only in my case it was much thicker. I consider that in most cases the formation of this membrane is a most satisfactory reparative result. I should be glad to see Dr. Theobald's case followed for some time to see whether or not there was any return of disagreeable otorrhœa.

DR. J. A. ANDREWS, of New York: A few years ago I reported to the Society a case similar to that of Dr. Theobald. The membrane closed about three-fourths of the canal. It was removed and there was no return of the discharge.

DR. HUNTINGTON RICHARDS, of New York: I recently saw a case in which there were two closures. One at nearly the normal distance of the tympanic membrane and the other close to the meatus. I removed the outside membrane, but hesitated to cut through the other, as in one or two cases where I have done so, the evidences of improvement have not been great. I am now treating a similar case where the stenosis is close to the position of the normal tympanic ring. I have cut away the lower portion of the ring with acetic acid to permit free exit of discharge.

DR. THEOBALD, of Baltimore: There was no return of the discharge in the few weeks that the patient remained under observation. The patient would undoubtedly have been willing to be more or less troubled with otorrhœa to gain the marked improvement in hearing.

On the Renewed Employment of the Nasal Douche and Kindred Procedures, by DR. A. H. BUCK, of New York. Several years ago attention was called to the danger of exciting ear trouble by the use of the nasal douche and similar procedures. For some time it seemed that this warning had been heeded. During the past winter and spring the author had seen a large number of these cases and thought it advisable to again call attention to the dangers that may follow the use of the nasal douche. In a few instances the results of the inflammation have been severe, but in the majority they have been simply an increase of the subacute nasal and aural catarrh.

As a safer and equally efficient method of treatment the use of a spray was suggested. The following preparations were mentioned:

℞. Eucalyptol,
Ol. gaultheria ..... ää gr. j.
Menthol ..... gr. ij.
Benzoinol ..... ʒ ij.
M.

If the patient objects to this, it may be substituted by

℞. Listerine ..... 1 part.
Water ..... 3 parts.

In the presence of an accumulation of viscid mucus or of crusts, a stream of flowing water will doubtless prove more effective than a stimulating spray. If the latter is used freely, and each time during the inhalation of a deep breath, crusts and mucus will speedily cease to play a part in the therapeutic problem. In no instance had he known the use of the mixtures mentioned to cause any unpleasant aural symptoms, the use of sprays must, however, be looked upon only as a valuable method of supplementary treatment, and not as a therapeutic procedure of the first order.

The Removal of a Bullet from the Ear with the Assistance of the Galvano-cautery, by DR. LUCIEN HOWE, of Buffalo, N. Y.: The difficulty occasionally met with in removing a round hard body from the auditory canal is well known. The first efforts in these cases should be made with a syringe. The writer wished in this paper to call attention to a method which may occasionally prove

useful, and which, so far as he was aware, had not been before suggested.

April 30th, a boy, aged seven, was brought to him with a small bullet lodged in the lower part of the auditory canal. An attempt to remove it by syringing was first made without avail. An attempt with forceps showed the foreign body firmly imbedded, and on account of its smooth surface, it was impossible to grasp it. It then occurred to the operator that it might be possible to melt into the lead the wire of a galvano-cautery by means of which, when cool, it could be removed, or if not, to at least roughen the surface to such an extent as to allow forceps to grasp the bullet firmly. The child was put under the influence of chloroform, and the wire was melted into the lead, and the ball was drawn to the narrow part of the canal, where it became detached, the surface of the bullet was then roughened above and below, and with toothed forceps removed.

The speaker took the opportunity offered by the report of this case to express his firm conviction that we should use every effort to discourage the practice common among physicians of attacking every such foreign substance with a pair of forceps. By our own example and discussions we should teach our brother practitioners how much simpler and safer an instrument we have in the syringe.

Anatomy of the Elephant's Ear.—Dr. A. H. Buck, of New York, made a supplementary report on the "Anatomy of the Elephant's Ear."

Excision of Malleus and Membrana Tympani.—Dr. C. H. Burnett, of Philadelphia, read a paper on "Permanently Good Results of Excision of the Malleus and Membrana Tympani in a Case of Chronic Tinnitus and Aural Vertigo; and in a Case of Chronic Suppuration of the Attic, due to Necrosis of the Head of the Malleus." In the first case all known remedies for the relief of catarrhal deafness, tinnitus aurium, and vertigo failed to give any relief. The malleus being found adherent to the promontory, this was believed to be the cause of the retraction of the chain of auditory ossicles, impaction of the stapes, pressure on the labyrinth fluid, and the noises in the head and intense aural vertigo.

The patient was therefore etherized, May 22, 1888, and the membrana tympani and the malleus excised. The relief to the tinnitus and vertigo instantaneous and complete and the cure has been a permanent one for two years, thus proving the mechanical origin of so-called Menière's disease in many instances.

In the second case a chronic purulent discharge from the attic cavity of the middle ear, due to necrosis of the head of the malleus of several years' duration, was promptly and entirely relieved by excision of the membrana tympani, and the diseased malleus. The operation was performed in July, 1889. The purulent discharge ceased at once. A new membrane formed in the course of two months and the hearing rose from nothing to twelve feet for isolated words. There has been no renewal of the discharge up to the present time, one year from the date of operation, and the general health of the patient has greatly improved.

Shrapnell Perforation.—Dr. B. Alexander Randall, of Philadelphia, contributed further notes on the Shrapnell perforation. He remarked that in citing in his paper of the previous year a series of 13 new cases among 500 patients in six months' practice and a total of 120 among 10,000 in a group of clinical workers, he had thought the frequency of the lesion sufficiently proven; yet as the point had been questioned when his paper appeared, he had been noting such cases again since January 1st. As the result, he had 23 cases to report, observed among 500 new patients of the six months, three of which occurred in patients previously seen but without recognition of such a perforation. His incomplete notes for the latter half of 1889 showed only 4 records of the ...sion. But he was confident that many more had been ... and treated. Yet even accepting this record as complete, it furnished a series of 27 cases, among about 1,000; or 42 among the 1,500 patients seen during fifteen months = 2.8 per cent.

Excision of the drum membrane and malleus had been done in two of the cases before reported, without any such brilliant result as to lead him to prefer this radical measure to the intra-tympanic syringing usually employed. He expected to adhere to the latter, using as before the aural syringe and the hollow lachrymal probe as the most satisfactory apparatus, and the peroxide of hydrogen and weak solutions of the mineral acids as the fluids.

The cases were reported in detail, with drawings of many of them and the farther history of the former cases was appended.

Mastoiditis Interna following Erysipelas.—Dr. J. A. Lippincott, of Pittsburg, reported a case of "Mastoiditis Interna Purulenta following Erysipelas." The ear became involved one week after the occurrence of a severe attack of erysipelas. There was no preliminary involvement of the throat or nose. The patient recovered after opening of the mastoid and syringing.

Dr. Neil J. Hepburn, of New York, reported a case of "Fracture of the Malleus Handle from the Introduction of a Hair-pin."

Some Cases of Mastoid-cell Disease with a Fistulous Opening which Recovered Without the Use of the Drill or Chisel, by Dr. Oren D. Pomeroy, of New York. Four cases were reported in which recovery occurred by the use of Wilde's incision and careful antisepsis.

The first case was that of a woman, forty-nine years of age, who had a fistulous opening into the mastoid three-quarters of an inch deep. After waiting a reasonable time for the fistula to close from the bottom, the external wound was allowed to close. There was no untoward results.

The second case was that of a man, thirty-nine years of age, who had a fistula into the mastoid eleven-sixteenths of an inch deep, which healed before the external wound was closed.

The third case was that of a child, four months of age, who had an opening into the mastoid, extending forward and inward for one and a half inch. This had nearly closed when the external wound was allowed to close.

The fourth case was that of a man, twenty-two years of age, who had an opening into the apex of the mastoid, which closed concurrently with the Wilde's incision.

None of these cases had enough systemic disturbance to suggest that anything was going wrong.

Aneurism First Recognized in the Fundus of the Ear, Later Appearing in the Neck, a paper by Dr. Charles A. Todd, of St. Louis. May, 1880, Mr. C——, aged forty-five, came under observation, complaining of pain in the left ear and symptoms suggesting furunculus. In 1858 he had had severe otitis media in both ears for one week followed by discharge, which ceased without treatment. Some deafness has existed since. For the past seven or eight years he had noticed a pulsating sound, at first in both ears, now in the left. On examination of the left ear, there was seen a circumscribed swelling on the floor of the meatus, just in front of the membrana and entirely concealing it. It was soft and fluctuating. Filling the ear with water, a distinct intra-aural pulsation could be seen. The swelling was lanced under the supposition that it was a furuncule. There was a free gush of blood, and three ounces were lost before the flow could be stopped by tamponing. No pus whatever was seen. The tampon could not be permanently removed for several days. Compression by tampon was advised to be continued at home. August, 1880, it was learned that compression had afforded little benefit. Ligation of common carotid was suggested if symptoms were considered sufficiently severe.

March, 1883, patient was again seen. Electrolysis had been tried with asserted diminution in size. March, 1890, the aural tumor was still present, but in addition there was a large aneurismal swelling of the neck below

the ear. The patient was then referred to a general surgeon, and has not since been heard from.

Dr. Blake's Paper Disk, Case Histories, a paper by DR. ROBERT BARCLAY, of St. Louis. The object of the paper was particularly to call attention to the application of paper dressings to the membrana tympani, first suggested by Dr. Clarence J. Blake, of Boston, for the treatment of perforation of that structure. To demonstrate not only the advantages claimed for this method, but others modestly disclaimed, and its wider usefulness in other conditions than those defined for its application when originally suggested, the following cases were reported.

CASE I.—A lady, twenty-eight years of age, with right-sided acute otitis media of twenty-four hours' duration. The right membrana tympani vibrans was found bulging. A deep incision afforded some relief. At the end of five days the perforation of the posterior superior quadrant of the membrana tympani. This was closed by the application of a paper disk. Seven weeks later the disk, with attached epithelial plate, was removed from the superior posterior canal wall. The perforation had healed, and hearing was normal.

CASE II.—A lady, twenty-five years of age, sought relief from tinnitus and deafness of right ear. The left ear had been condemned as irreparably disabled by former inflammation. She had had otorrhœa in childhood. Three years before, there had been a return of this trouble in the left ear. This was checked after one week's duration. This ear, however, remained deaf. With the right ear she could hear a moderate voice, with the left a loud voice at two feet. Right middle ear was the seat of chronic catarrhal inflammation. The membrana tympani of the left ear was perforated in the posterior inferior quadrant. Treatment somewhat relieved the symptoms in the right ear. Stimulating applications to the perforation induced its closure to one-sixteenth inch diameter, when a paper disk was applied. Two days afterward the disk was still in place. Hearing in left ear was $\frac{1}{48}$; while moderately loud voice could be heard at twenty-five feet distance. The disk was subsequently removed, and the perforation closed. The hearing of left ear has steadily improved.

CASE III.—A man, thirty-five years of age, was seen, with deafness, tinnitus, cough, and otorrhœa in left ear of two months' duration. Two circular perforations of the membrana tympani were found. The otorrhœa was checked and a paper disk applied to each perforation with immediate improvement of hearing for the voice. It is thought that the relief may have been permanent, as the patient did not return.

CASE IV.—A woman, thirty-seven years of age, six weeks before coming under observation sustained a compound fracture of the skull, involving both sides of the base, the bony tympana, membranal tympanum, and right external auditory canal. There had been aural hemorrhage, followed by otorrhœa. There was a transverse rent of right membrane. Within thirty-five days the only open wound was a small perforation. A paper disk was applied; a little flexible collodion was painted over it. Within two weeks hearing became normal.

CASE V.—A woman, twenty-one years of age, with the left membrane almost entirely sloughed away. A paper disk was applied. Within ten days the watch could be easily heard off the left auricle. The hearing has steadily improved.

CASE VI.—A man, twenty-two years of age, had prolonged otorrhœa on right side in childhood. For past three weeks had deafness in both ears. Left ear was the seat of chronic catarrhal otitis media. Right ear shows two perforations. These closed in seven weeks. There was marked improvement of the hearing.

CASE VII.—A male, nineteen years of age, had been subject to bilateral otorrhœa since the age of six months. Perforation of right membrana tympani was found. After cessation of otorrhœa paper disks were applied. The perforation promptly closed with improvement of hearing.

CASE VIII.—A male, nineteen years of age, had otorrhœa in childhood. During past eight years has had recurring attacks of otorrhœa on left side. The left membrana tympani was greatly thickened and perforated. The discharge ceased in nine days and under stimulating treatment the size of the opening diminished. In the fourth week the first paper disk was applied. Four days later the hearing for the watch was $\frac{6}{48}$. The perforation subsequently closed.

CASE IX.—A physician, forty-eight years of age, had sustained a rupture of both tympanic membranes in diving thirty four years before, and for over thirty years had intermittent otorrhœa. A perforation in the right membrana tympani was found. This promptly healed under the application of a paper disk. The hearing greatly improved.

Conclusions.—From the case histories given may it not be considered demonstrated that Dr. Blake's paper-dressings have these therapeutic advantages already claimed: Applied to a perforation of the membrana tympani it performs in a great measure the functions of the lost membrane—1, improving the hearing from the time of application; 2, maintaining a normal degree of moisture and temperature in the air of the tympanic cavity; 3, protecting the inclosed tissues from direct influences of atmospheric changes; 4, excluding organic and inorganic foreign bodies approaching from the external auditory canal; 5, it acts as a local irritant to the edge of the perforation only, thereby inducing reproduction of the lost membrane; 6, as a splint, protecting it when forming and preventing its displacement in either direction.

May we not accredit this method with these additional advantages, hitherto unclaimed: 1, Improvement in hearing may subsequently result from cicatricial closure of the perforation, not at once appreciable on application of the paper disk; 2, the paper dressing may prove serviceable even where the perforation is quite large; 3, it may be used to advantage where indeed the outer surface of the membrana tympani has not returned to its normal condition; 4, it may prove a serviceable artificial membrana tympani where that structure is almost entirely lost; 5, at the same time may stimulate reproduction thereof; 6, it may serve as a splint when applied to manometric tissue; 7, it may induce conservative structural modification thereof; and, 8, may by acting here as an artificial membrana tympani at the same time improve the hearing.

A failure to secure satisfactory results is not to be attributed to the method, experience proving that discriminating judgment and skill in its application are largely essential to its usefulness.

Election of Officers.—The following officers were elected: *President*—Dr. Gorham Bacon, of New York; *Vice-President* — Dr. Huntington Richards, of New York; *Secretary-Treasurer*—Dr. J. J. B. Vermyne, of New Bedford, Mass.; *Committee on Membership*—Drs. Arthur Matthewson, of Brooklyn; Samuel Theobald, of Baltimore; and S. D. Risley, of Philadelphia; *Committee on Publication*—Drs. J. J. B. Vermyne, of New Bedford; Dr. C. J. Blake, of Boston, and Dr. J. Orne Green, of Boston.

The following were elected to membership: Dr. Frederick L. Jack, of Boston; Dr. J. B. Shapleigh, of St. Louis; Dr. Benjamin J. Baldwin, of Montgomery, Ala.; Dr. J. M. Ray, of Louisville, Ky., and Dr. F. W. Ring, of New York.

The Society then adjourned.

An Injection for Fistulæ.—The following is recommended as of much service in promoting a cure of fistulous tracts:

℞. Camphor ..... ʒ j.
Salol ..... ʒ ss.
Ether ..... ʒ j.

Correspondence.

THE BINDER.

To the Editor of the Medical Record.

Sir: In the editorial columns of the Medical Record of May 31st, the binder is given a "header" of no uncertain character. Notwithstanding the unseating of the practice so long continued in so cyclonic a manner, there will still remain some who believe the binder both scientific and physiological, and in a large number of cases productive of comfort. It is not applicable to all cases equally. Women with thin abdominal walls do not derive the good that comes to those with full habit. No one will claim the binder exercises other than a general effect upon the uterine circulation. It should never be connected with the napkin, as the upward tendency will tighten the napkin so as to seal the vagina and prevent the free lochial discharge.

First, as to its scientific character, effect upon involution, etc. There exists, in a greater or less degree, the same indications for supporting the abdomen and its viscera after confinement as in the tapping the abdomen when distended with fluid. The rapid removal of so great pressure and distention is followed by an influx of blood and passive congestion of the whole abdominal and pelvic viscera, at times producing flatulence and lack of ease. The binder by its support relieves this disposition, and thus favors better functional activity of all these organs.

There is no question in my mind touching its favorable influence upon involution of the uterus and abdominal walls, especially the latter. Its effect upon the uterus is limited to its effect in modifying the pelvic and abdominal circulation. In all instances when the patient is possessed of any degree of embonpoint, pregnancy creates a great redundancy of tissue in the abdomen, and if the pregnancies are near together the excess multiplies with each. The result is that the walls grow pendulous. This condition creates a function in these walls—to wit, their own support, and thus tends to bar absorption and the return in *statu quo*. The binder removes the pendulous character, placing the whole at rest, and thus deprived of function it straightway begins involution. I have a patient whose abdominal wall from some cause unknown to me slid down like an apron over the pubis upon the thighs, causing vomiting and distress in the stomach. Proper support has entirely restored the normal condition.

If the corset can work so great changes in the form, why not the binder influence favorably. The fact is, it does, and the majority of women express themselves as more comfortable after its application, and for the reason heretofore specified, and not imagination. If the practice is scientific, it is physiological. R. W. Erwin, M.D.

Bay City, Mich.

An Original Emergency Obstetric Forceps.—At the recent Nashville Convention many stories were told by those in attendance, while comparing notes concerning professional experiences. One practitioner, Dr. W. C. Blackman, of Davidson County, Tenn., related his experiences in two obstetric cases. In both instances he decided that immediate delivery was necessary. The natural forces had given out. He had no forceps with him; no neighbors to call on for assistance, and he was miles from home. Fortunately in both houses there happened to be pairs of shoemaker's pincers with stout curved handles. The latter were slipped over the heads of the children, and by pulling against the pivoted lock successful extraction was made. Both mothers and both children made perfect recoveries. One of the latter had a scar just at the edge of the hair, but the growth of the latter (the child being a girl) soon covered it up. This girl grew up into blooming womanhood and was married the week before the convention met.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 14 to July 19, 1890.

Phillips, John L., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for two months. Par. 4, S. O. 164, Headquarters of the Army, A. G. O., Washington, D. C., July 16, 1890.

Corbusier, William H., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for four months on surgeon's certificate of disability, with permission to leave the Division of the Missouri. Par. 4, S. O. 162, A. G. O., Washington, D. C., July 14, 1890.

Page, Charles, Colonel and Assistant Surgeon-General, Medical Director of the Department. Granted leave of absence for one month, to take effect the 30th instant. Par. 3, S. O. 91, Department of the Missouri, St. Louis, Mo., July 14, 1890.

Arthur, William H., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for three months, to take effect September 15, 1890, or as soon thereafter as his services can be spared. Par. 1, S. O. 160, A. G. O., Washington, D. C., July 11, 1890.

Means, Louis M., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted on surgeon's certificate of disability, in S. O. 4 January 6, 1890, from this office, is extended six months, on account of sickness. Par. 16, S. O. 160, A. G. O., Washington, D. C., July 11, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 19, 1890.

Auzall, E. W., Assistant Surgeon. Detached from the Galena and to wait orders.

Eckstein, A. C., Surgeon. Granted leave of absence for month of August.

Penrose, T. N., Medical Inspector. Granted leave of absence for two weeks.

Cabell, A. G., Passed Assistant Surgeon. Granted leave of absence for month of August.

Ashbridge, Richard, Passed Assistant Surgeon. Granted one month sick leave.

Heyl, T. C., Surgeon. Granted leave of absence for month of August.

Cooke, George H., Medical Inspector. Detached from the Navy Yard, League Island, and ordered to the Pensacola.

White, C. H., Medical Inspector. Detached from the Pensacola, to proceed home, and await orders.

Hochling, A. A., Medical Inspector. Detached from the Naval Hospital, Washington, and ordered to the League Island Navy Yard.

Wells, H. M., Medical Inspector. Detached from the Museum of Hygiene, and ordered to the Naval Hospital, Washington, D. C.

Whitfield, James M., Assistant Surgeon. Ordered to the Ajax and other monitors.

Woolverton, Theron, Medical Inspector. Ordered to the Philadelphia.

Lovering, P. A., Passed Assistant Surgeon. Detached from the Wabash and ordered to the Philadelphia.

BAILEY, T. B., Assistant Surgeon. Detached from the St. Louis and ordered to the Philadelphia.

WHITE, S. S., Passed Assistant Surgeon. Ordered to the Marine Rendezvous, San Francisco, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 19, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	28	5
Scarlet fever	43	7
Cerebro-spinal meningitis	2	1
Measles	212	11
Diphtheria	42	13
Small-pox	0	0
Varicella	7	0
Pertussis	0	0

Unna on the Treatment of Leprosy.—Unna, at Wiesbaden, in April, 1885, drew attention to the treatment of leprosy by ichthyol internally, and the application externally of an ointment of resorcin, twenty per cent., or rather of resorcin muslin. Milton has recently, in a pamphlet, drawn attention to the cure of a case of his by the same treatment, and advises that it should be extensively used, as it is efficacious, economical, and safe. Brooke, in an account of a recent visit to Unna's clinic, states that chaulmoogra oil is useless except in large doses, which the stomach will not tolerate, the treatment employed in two cases at present under Dr. Unna's care being, chrysarobin internally, with pyrogallol externally. The chrysarobin is given in a keratin-coated pill, which would not dissolve till it reached the alkaline media of the upper gut, and thus the premature oxidation, as well as the undesirable local action of the chrysarobin on the stomach would be avoided; and, in order to prevent its conversion there into chrysophanic acid, it is mixed with calcium sulphide in the pill, and followed down by free doses of hydrochloric acid.

The Art of Medicine *vs.* the Science.—What Emerson said of the poet is applicable in its degree to the true physician: "As the eyes of Lynceus were said to see through the earth, so the poet turns the world to glass, and shows us all things in their right series and procession. For through that better perception, he stands one step nearer to things, and sees the flowing or metamorphosis. . . . . The poet alone knows astronomy, chemistry, vegetation, and animation, for he does not stop at these facts, but employs them as signs." It is not enough for the physician to know anatomy, physiology, chemistry, and pharmacology; he must not stop at knowing these, but must put them into the alembic of his brain, and transmute them into medical science. Professor Huxley said the other day that it would be simply manslaughter for a doctor to treat his patients on the raw and undigested principles of physiology. Medicine must, therefore, never be looked upon as a mere science, because it is much more than that; it is wisdom sublimated from many sciences; and this is why the Gulls, the Jenners, and the Clarks can never be as common as the mere scientists who work by rule and scale. When Coleridge was accused of plagiarizing in his "Hymn to Chamouni," from the poem of Frederica Brun on the same subject, it was easily explained that though he had taken her framework and used certain of her ideas, he had done so simply to glorify and endow them with life. With her they were dead phrases; Coleridge created the "Hymn to Chamouni" out of them. Just in proportion as the physician can create diagnosis and treatment for the cases which come before him as living and as various as the patients which are the subjects of the different diseases, just by so much is he a true physician. The inferior mind may see the same things as the superior, but the latter alone "sees their flowing and metamorphosis." This is why patients would go and talk to Sir William Gull and derive benefit from the conversation, though they came away with no prescription, and took no drugs from his hands. The vulgar mind cannot understand the reason of this, and the hard scientist smiles a little superiorly at the idea.—*British Medical Journal.*

The Lunier Prize.—The French Temperance Society has received a gift of $200 from Madame Lunier, to be offered as "The Lunier Prize" for the best essay on the following questions: "What are the consequences of hereditary alcoholism, and what are the best means of prevention, or means to limit or lessen its effects?" Authors are expected to follow out the lines of inquiry suggested in Lunier's work on alcoholism. All manuscripts should be received before December 31, 1890, and should be addressed, Dr. Motet, Secretary-General of the French Temperance Society, 161 rue de Charonne, Paris, France.

A Ptomaïne of Mumps.—Dr. A. B. Griffiths has succeeded in isolating a ptomaïne from the urine of a patient suffering from mumps. The disease in this instance had attacked the parotid and submaxillary glands. The ptomaïne was obtained in white prismatic crystals, forming a crystalline hydrochloride. It was found to be soluble in water, ether, and chloroform. It gave precipitates with the common alkaloidal reagents, none being particularly characteristic. That with potassio mercuric iodide was of a slight yellow color, and the phospho-molybdate one of golden yellow. An analysis indicated that the formula of the principle is $C_6H_{13}N_3O_2$, and further examination pointed to the probability of its being propylglycocyamin.

$$HN=C<\begin{matrix}NH_2\\N(C_3H_7).CH_2CO_2H.\end{matrix}$$

It is therefore closely related to creatin (methylglycocyamin). The principle was found to be poisonous, causing in a cat nervous excitement, cessation of the salivary flow, convulsions, and death.—*The Medical Age.*

The Influence of Russian Baths on the Assimilation and Metabolism of Calcium, Magnesium, Potassium, Sodium, and Iron in Healthy Subjects.—Dr. Grüzdeff, of St. Petersburg, describes a series of investigations which he has carried out in Professor Manasseïn's clinic, in order to throw some light on the still obscure systemic functions in question. The experiments were conducted on eight healthy men (including the author himself), aged from twenty-one to forty-four. Each observation lasted ten days, during five of which a Russian bath of one hour's duration was taken once daily. The diet consisted of bread, meat, milk, and tea with sugar. The following are the main conclusions: 1. Russian baths increase the assimilation of calcium, magnesium, sodium, and iron, but depress that of potassium. 2. They manifest a diametrically opposite influence on the metabolism of the metals; that is, they decrease the metamorphosis of calcium, magnesium, sodium, and iron, but markedly augment that of potassium. 3. In other words, the bath promotes the retention of calcium, magnesium, sodium, and iron within the system, while it—*sit venia verbo*—expels potassium from the organism. 4. In view of these facts, Russian baths may find a useful application in the treatment of the so-called "mineral starvation."

An Unprofitable Field for the Patent Medicine Manufacturer.—There is a law in Bulgaria to the effect that if a patent medicine, which is advertised to cure a certain malady, fails to do so, the vendor of the remedy is liable for damages, and may also be sent to prison for a limited period of time as a punishment for publishing an untruth to the injury of the public.

Supernumerary Mammæ.—Dr. J. Herbert Darey, of Granger, Minn., reports an instance of this condition. In addition to the two normal breasts there was in each axilla a mamma as large as a lemon, having a distinct areola but no nipple. The ducts opened in the areola. The glands had the ordinary consistence of the normal breast, and were freely movable under the skin.—*Montreal Medical Journal.*

French Population Statistics.—The last French census showed that the population of France consisted of 37,930,759 souls. A contemporary has analyzed the figures supplied by the census returns as to occupations, and from its report it is found that the number of persons depending upon agriculture was 17,698,402; upon industrial pursuits, 9,289,206; trade, 4,247,764; liberal professions, 1,094,233; transport service, 1,020,721; public administration, 711,027; public forces, 613,362; independent persons, 2,295,966; giving a total for the classified population of 36,970,681. The difference is made up by 490,374 persons not classed, 237,899 persons without professions, and 231,805 persons with unknown professions. The mean proportion of the agricultural classes to the total population is forty-eight per cent. for the whole of France, but it varies from 83.6 per cent. in the Department of the Lozère to 2.3 per cent. in that of the Seine. The proportion of the agricultural population is much larger in the centre and west of France than in the north and east. The agricultural and industrial classes in France absorb together three-fourths of her total population, and they are distributed in inverse ratio to each other. The mean proportion of the industrial population of France is twenty-five per cent., but it is not found in any department, the nearest proportions being twelve and twenty-six per cent. The average extent of the French trading classes is eleven and a half per cent. of the total population. The following departments are essentially commercial: Seine, 27.5 per cent.; Bouches-du-Rhône, twenty-five per cent.; Rhône, twenty-two per cent.; Alpes-Maritimes and Isere, nineteen per cent.; Gard and Seine-Intérieure, seventeen per cent.; Hérault, Nord, and Seine-et-Oise, sixteen per cent. The proportion of the liberal professions to the total population of France varies but little in the several departments. Its mean is about five per cent. of the population. Finally, as to the class of the population described as independent, its mean proportion over the whole of France is eleven and a half per cent. We find the highest percentages in the following departments: Seine-et-Oise, 22.3 per cent.; Haute-Garonne, fifteen per cent.; Seine, twelve per cent.; Seine-et-Marne, eleven per cent. The lowest mean (from one to three per cent.) of persons living on their property is found in the Auvergne, Alps, Savoy, and Brittany.

Puerperal Mastitis.—Dr. M. Deis has collected a long series of cases of puerperal inflammation of the mammary glandular tissue, and embodied his researches in a thesis published last year at Heidelberg. About 3.6 per cent. of lying-in women were attacked, the majority being primiparæ. In half the cases the inflammation subsides without suppuration. Mastitis begins, as a rule, between the eighth and tenth day, and lasts from three to five days. The outer and externo-inferior lobes of the gland are the most frequently attacked. The temperature ranges from 100° to 104°, the maximum being usually attained on the first day of illness.

Music and Meat.—It is said that Adelina Patti habitually uses large quantities of a preparation of beef, believing that it tends to preserve her voice and quiet her nerves when overstrung.

Hearing Restored in a Deaf-mute.—Dr. W. H. Bates reports, in the New York *Medical Journal*, the case of a deaf-mute, nineteen years of age, whose hearing had been lost after an attack of cerebro-spinal meningitis, at the age of three years. The patient could not hear the ticking of the watch, loud conversation, or the sound of her own voice. The Eustachian tubes were not easily opened by Politzeration. Drum-membranes transparent, slightly sunken. Tinnitus was present. The history of the patient, deafness following cerebro-spinal meningitis, would have indicated incurable internal ear deafness, and the negative appearance of the drum-membranes would have supported this supposition. The tuning-fork, however, gave the well-known formula obtained in many uncomplicated cases of catarrhal inflammation of the middle ear, a condition that can often be benefited by treatment. Treatment was pursued daily for a month by inflation and the application of nitrate of silver to the vault of the pharynx. Her family physician was giving her constitutional treatment. At the end of three months the watch could be heard at a distance of five feet, and conversation at twenty feet, the patient was learning to talk, her speech resembling that of a young child.

Cooking Eggs.—How many women know how to prepare a perfectly fresh egg so that an afflicted stomach can eat it? Pour boiling water over the egg (in its shell), let it stand on the tank in the water for five minutes. The egg will be nearly as smooth as custard, and is almost as easily digested as a raw one, while its flavor is something delicious.—*The Nightingale.*

Naregamia Alata, a small shrub with pendent branches and triple-pointed leaves, a native of Goa, is said to possess valuable expectorant properties. The plant is used in India by the natives as a remedy for biliousness, and is also given for the relief of dysentery and in catarrhal affections of the respiratory organs. The drug is exhibited in the form of a tincture extracted from the thin bark of the branches, the dose of which is from five to fifteen drops three times a day.

Suing the Wrong Party.—A young woman in Summit County, O., was supposed to be suffering from an ovarian tumor coming on, it was alleged, as a result of injuries sustained in a railroad accident. Her suit for damages was still pending against the railroad company when an operation was deemed imperative. The surgeon was somewhat surprised on opening the abdomen to discover a dead full-term fœtus. The railroad company now disclaims all responsibility for the tumor.

German Medical Diplomas.—In the numerous small free faculties of Germany the medical students pass their examinations in the following manner:

"Do you smoke?" asks the examiner.

"Yes, sir," answers the student. "Will you have a cigar?" (*Hands the professor a pfenning cabbage leaf cigar.*)

"Tell me," says the professor (*slowly lighting his weed*), "what are a physician's principal duties?"

"To collect his fees, increase his practice, and exhibit his diploma from the time-honored University of Guzzleburg," replies the student.

"Where shall you practise?" demands the professor, "and what are your duties toward me?"

"I shall go to America, among the ignorant natives, and make a golden harvest. And my duty toward you, Herr Professor, is to invite you to dinner for the rest of the semester," answers the student.

The professor smiles and says: "You are right. Let us go to a restaurant opposite and I will sign your diploma. The diplomas of the time-honored University of Guzzleburg are admired and respected in America. I have a cousin who is a doctor in Chicago. Let me tell you how the Indians chased him on Prairie Avenue. He was wounded twice by their arrows, and captured, but was released by his pursuers when they found on his person the time-honored diploma of the University of Guzzleburg. Ah! here's the restaurant, and I will make out your diploma from the time-honored University of Guzzleburg."—*Cincinnati Lancet-Clinic.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 5.
Whole No. 1030.

NEW YORK, AUGUST 2, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

NOTES ON THE REFLEX NEUROSCS.[1]

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ITHACA, N. Y.

ONE day last week, I was called to treat an abscess in the hand of a young lady of about fifteen summers. While I was examining her hand she took a very lively interest in the proceeding, telling me very vivaciously how she had received the injury which caused the trouble. She was going on with the story very volubly when she saw me reach into my surgical case and procure a knife, pair of scissors, small forceps, and some absorbent cotton. I told her that I must open the little abscess at once. Her face immediately became all sicklied over with the pale cast of—nausea, and in about fifteen seconds she was at the verge of syncope, and vomiting profusely, and all this before I had touched the throbbing point with an instrument. This very simple, little every-day occurrence suggested three or four cases bearing on the rather threadbare subject of the reflex neuroses. Before I go on, perhaps we had better clear the ground a little by making two or three definitions. A neurosis has been defined as "a functional disturbance without any demonstrable organic change in the organ disturbed," and these manifestations must, of course, be clearly differentiated from organic disease on the one hand, and from pure hysteria on the other, with neither of which it has much in common. A physiological reflex action, such as the sudden withdrawal of the hand from contact with something very hot or very cold, or a flow of tears when we get a cinder in the eye, is a complicated process, involving, as we all know, at least six distinct steps and employing six organs. There is first, the nerve-end organ, which receives the impression; second, the afferent nerve; third, the centre in the spinal cord or brain in which the impression is received, and from which the reflex impulse proceeds; fourth, the efferent nerve carrying the impulse; fifth, the end-plates of the nerves in muscle or epithelium or corium which is excited on receiving the stimulus. This is the normal procedure, entirely out of will control, which saves us from injury a dozen times a week. It takes place when we are asleep as well as when we are awake, although not with the same rapidity or certainty. My reason for stating these simple and familiar facts in regard to normal reflex action, is to insist upon the importance of remembering that pathological reflex action manifesting itself in a neurosis, is the same sort of a process as the physiological, the difference being in degree, not in kind.

Somewhere among the six steps or parts of the action, the diseased condition manifests itself and modifies the result in point of intensity, location, or duration; but the process always retains the essential elements of the normal reflex act. Reflex neuroses are characterized by several qualities, each of which is related to one of the six steps or parts of the normal process. First, there is always a distinct indication of the local irritation which gives rise to the reflex nervous irritation. This indication may be misunderstood, or it may be overlooked, as is very often the case, but the causal trouble always manifests itself more or less positively. I do not believe that the irritable ovary that the gynecologists used to talk about ever produced severe headache as long as the woman's only consciousness of the existence of the ovary was a little pain suggested by the doctor and located in the region where the ovary is supposed to be, but where it never is; this pain being usually at the points where the nerves of the lumbar plexus pierce the fasciæ and become superficial. If "ovarian irritation" is going to produce reflex phenomena, it declares itself first by positive local symptoms of its own. So, too, with the teething of infants—that last resource to which we all betake ourselves when we don't know what on earth is the matter with the baby. We say its "teeth trouble it," when in reality there may be no local indication of any trouble whatever in the mouth. There is something mysteriously satisfactory in saying that the baby's teeth are the cause of about all of its ailments. The old ladies will all believe us, and perhaps we may almost believe ourselves; but the fact remains that unless you find congestion and tenderness in the infant's mouth, which conditions are rather rare, you ought to look further for the cause of the diarrhœa or constipation, and you ought not to satisfy the trusting parent by talking about the teeth. Reflex nervous troubles vary in intensity as the irritations which cause them vary, and there is a positive, unmistakable, and continuous relation between the two. When the causal disturbance is aggravated, the reflex phenomena are more pronounced.[1] A true reflex neurosis is usually sudden in onset, and if it takes the form of convulsions, they are severe and explosive in type. The reflex pain is usually acute, and, in my experience, has almost always been associated in the mind of the patient with the irritation causing it. Lastly and chiefly, the results of treatment in this class of cases are conclusive in reference to diagnosis. In fact, no diagnosis of a reflex neurosis can be considered substantiated until it has disappeared with the removal of its cause. Treatment directed to the reflex trouble itself is never of any permanent benefit, whereas, when the irritation which causes the neurosis is discovered and the treatment is directed to the removal of that cause, the results are almost magical. I think error is made by far too often on the side of laying too much to the charge of reflex irritation. It is, for example, such an easy, short cut to a diagnosis to tell a woman who eats and sleeps improperly, who will not take the trouble to compel a normal movement of the bowels every day, and who will not dress properly, that she has "ovarian trouble." If you tell her in the right way, you win her everlasting friendship, for it is so much more interesting and pleasing to have "nervousness" from mysterious ovarian irritation than it is to be tired out by laziness, and poisoned by fecal absorption; and so the woman puts a little dab of iodine over the sigmoid flexure or the caput coli, takes two or three pills, and, of course, her "ovarian irritation" is temporarily very much improved. In this connection one might mention the worm-man; the doctor who attributes almost every ailment of childhood to intestinal irritation due to worms, those mysterious cave-dwellers of our economy that sometimes (not always) make childhood's hours so delightful. Of course, there are children who have intestinal parasites, but among people who use good water and properly cooked food, they are very rare. Let a doctor, however, once make up his mind that the symptoms of a case that

[1] Read before the Tompkins County Medical Society, at Ithaca, N. Y., March 26, 1890.

[1] See The Relation between Peripheral Irritation and Nervous Phenomena, by M. Allen Starr, in the MEDICAL RECORD of January 4, 1890.

he does not clearly understand are due to worms, and that man is forever lost; round-worms, tape-worms, and thread-worms will be the burden of his song to the end of his days. He will please the aunts and grandmothers, too, because the thing that enjoys the greatest popularity as a cause of children's diseases, next to teeth, is worms. I should hesitate to say just how many parents in Ithaca give their children "worm medicine" once a month, just on general principles. One of our professional brethren here, a few weeks ago, owned up to starting off almost every sick child he saw for the first time, on a good round dose of santonin and calomel, and I don't suppose he kills them all either, although I have not the slightest doubt in the world that his medication is usually wasted sweetness. In this connection I am reminded of a story that perhaps you have all heard, for it is so ancient that it was probably first told in Galen's back office, but it is to the point, so you must bear with me while I tell it. It seems that many years ago, there lived a doctor who modestly stated in his professional card, according to a new code which was enacted at about that time, "special attention given to diseases of children," and it was his invariable custom, on seeing a sick child for the first time, to look wise, say solemnly to the mother, "Worms, madam, worms!" and proceed to act accordingly, without any apparent reference to the condition of his patient.

He was called, one afternoon, to the house of a neighbor to see his child. He glanced at the little boy, and turning to the mother, remarked, "Worms, madam, worms!" and proceeded to prepare his usual anthelmintic. As soon as the boy's mother could get her breath she replied, "But, doctor, Tommy's leg is broke. He was climbing on the roof, and he stepped on a piece of rotten wood and it broke under him, and so he fell and broke his leg."

The doctor never stayed his hand. He said, "I told you so, madam! worms in the wood, madam! worms in the wood!" And so Tommy got his dose—and so the worm pathologist sees nothing in his practice but worms; while the gynecologist believes that "a woman has no organs outside of her pelvis;" and the oculo-neurologist cures headache, epilepsy, dyspepsia, chorea, insanity, and everything else except perhaps the itch, by rectifying the altogether too erratic and frisky eye-muscles.

The recent discussion in the New York Neurological Society, of the question of eye-strain in reference to reflex nervous diseases, at once suggests itself as bearing upon my subject. I cannot, of course, pretend to discuss that burning question at length; but I would like to relate one case which illustrates several of the points made above. The case is that of a boy aged about eleven, who has suffered about seven years from that form of epileptic seizure known as petit mal. About four years ago, attention was called to his eyes, on account of his evidently imperfect vision. There was also conjunctival trouble, photophobia, and the usual headache. A New York specialist examined his vision and prescribed glasses, which were used with most excellent results. An ointment was given to him at the same time for his blepharitis, after using which there was no further consciousness of eye-strain.

In November, 1887, muscular insufficiency was discovered in both eyes, and he was sent to one of those most highly specialized of specialists, an eye-strain neurologist, for treatment of the eye-muscles as a cure for his epilepsy.

Before this, the boy had been taking bromides very freely, was in a bad condition of general health, and was in a very much over-wrought, irritable state of mind. Like most specimens of the neurotic temperament, he is an extremely bright boy, and very impressionable. His seizures had been recurring at a quite regular interval of from three to four weeks at this time.

The eye-strain specialist examined the boy and detected several degrees of some sort of phoria—esophoria, I think. He proceeded to operate with quite positive assurances of curing the epilepsy. At the same time the doctor stopped all medication. The immediate effect of the operation, together with the withdrawal of the bromides, was very good. The boy's appetite improved, he began to sleep well, and high hopes were entertained of his recovery; but at about the usual time of the next month, his epileptic seizure recurred with about the usual force. It must be remembered, however, that they were almost always of a mild type. During the past two and a half years, our specialist has been making partial or complete tenotomies of the various eye-muscles from time to time, and on one occasion "advanced" one of the recti of both eyes, doing in all ten or eleven operations. The boy's general health has steadily improved, but his monthly attacks have regularly reappeared, with variable severity. The doctor has "corrected" esophoria, exophoria, and hyperphoria at different times, and now says that there remains some sort of strain, due I think, he says, to hyperphoria, which only needs to be corrected to effect a permanent cure. It is difficult to understand when the necessity for these little operations will be overcome. Every examination made by Dr. —— during these two years has developed some new deviation that demands immediate treatment. In this particular case, there must exist one of two conditions—either the epileptic seizures must be entirely independent of the eye muscular insufficiency, or if such inequality does exist as a cause, it is practically impossible to produce by operation an exact equilibrium among the eye-muscles. Beyond the eye-strain due to the myopia, which was corrected by glasses in the first instance, this boy's eyes have given him no trouble, so that if we accept the condition stated above, that a reflex neurosis cannot exist without consciousness of the irritation giving rise to it, we must conclude that this case verifies the conclusions of the committee of the New York Neurological Society, reported on November 5th last, that "the method" (referring to tenotomies practised on the eye-muscles with the view of curing epilepsy and chorea) "does not afford a sufficient degree of relief to patients suffering from chorea or epilepsy, to warrant its adoption or recommendation as a means of cure, or as a sole therapeutic measure," and therefore, as far as the scope of this paper is concerned, epilepsy and chorea are not to be classed among the eye-strain reflex neuroses.

Several years ago, I came in contact with a case which puzzled me a great deal. It came under my observation while my sign was yet bright and new, and being fresh from the medical college then, I was quite enthusiastic about the reflex neurosis. I was quite sure that my patient had ovarian irritation, which at that time was quite fashionable. She lived in an expensive boarding-house, and was very much afflicted with that most malarious sort of malaria which caused her to lie in bed late in the morning, and have her breakfast sent up to her room. She had awful headaches and backaches, and after she had had an unusually severe attack of her special sort of "malaria" and "ovarian trouble," she would develop the most terrific dyspnœa. She would kneel on the floor, supporting her shoulders on two chairs, and gasp for breath amid a circle of horrified and sympathetic friends and relatives. There was acute pain on pressure in the inguinal regions, and inasmuch as just at that time the gynecologists were beginning to remove ovaries for the cure of hystero-epilepsy, it struck me that here we had a somewhat allied case, *i.e.*, a true case of a reflex neurosis from a neuralgic ovary. The more treatment the woman received the more she liked it, and the more she wanted. At one time she had accumulated five different kinds of medicine, and was taking them all at once, besides making an external application twice a day. In the course of the next year her husband rented a house and departed from the boarding-house. As soon as the woman had work which she was obliged to do, and in which she was interested, her "nervousness," headache, backache, and attacks of dyspnœa disappeared. Her case was

not one of a reflex character at all. It was simply hysteria, bred of boarding-house idleness and a morbid desire for sympathy.

Having thus touched upon two cases which illustrate common conditions which are not reflex neuroses, I will relate the histories of three cases which are distinctly of that character, cases in which the reflex character of the trouble was positively demonstrated by the immediate and permanent relief which followed the removal of the cause in each case.

The first case to which I will call your attention is that of a woman, Mrs. M——, aged thirty-eight, who has one child of four years. She is of a distinctly neurotic type and inheritance. She came to me in October, 1887, complaining of an uncontrollable twitching of the muscles of the right leg, together with severe pain in the region of the sciatic nerve. I carefully inquired into the history of the case and found no tangible cause for these symptoms. Her appetite was good, she had a regular movement of the bowels every morning, and she added that her health was always excellent, except that when she was overworked and tired she became constipated, had terrible pains in the back with shortness of breath, and a peculiar "rash" which she described as breaking out in large spots on the upper part of the body. She had been free from this peculiar sequence of troubles for the past six months, although it usually recurred three or four times a year. She did not associate that trouble in any way with the sciatica and muscular irritability. I questioned her again as to the condition of the bowels and rectum, because I suspected some trouble there, but she answered very positively that there was no difficulty whatever with the bowels, and as she seemed to consider that subject one not to be discussed, I forthwith dropped it. Treatment directed to the nervous conditions presenting themselves, resulted, in the course of a week or two, in quite decided improvement, and I thought nothing more of the case until the afternoon of the following Christmas, when I was called to see her in a great hurry. I found her gasping for breath, pulse 140, temperature normal, and evidently in great pain. On the left shoulder was a somewhat raised, dark-reddish spot, about the size of the palm of one's hand. There was no special heat in the skin at that spot, and there was no white line following pressure with the finger. There was a similar, but smaller, patch of the erythema on the forehead. She then told me that the regularity of the bowels about which she had been so positive a few months before, was only produced by the daily use of a large enema of hot water, and that the ensuing movement was very painful whenever it was hard in character. It had been of that sort lately, and she said that she was sure that all of her symptoms came from the pain that followed such a movement. This pain was very intense, lasted two or three hours steadily, and then came on in a spasmodic way all the rest of the day. The character of the pain, of course, suggested fissure in ano, which on examination proved to be the lesion, together with a very large internal hæmorrhoid which came down upon the sphincter and irritated it. This, of course, is not an uncommon condition, but the case was peculiar on account of the extent and prominence of the reflex nervous phenomena. The sciatic neuralgia had returned in greater force than usual, there was most marked vaginismus, which was said to have been in existence since the birth of the child, four years ago. I at once advised an operation, but owing to a morbid dread of the anæsthetic, it was refused. All the changes were rung on the ointments, to no avail. Suppositories were inserted twice, with the result of making the patient faint with pain.

Chloral and bromides were given at night, and morphine was used hypodermatically, but all with only temporary result. The woman lay in great pain all day, with the hæmorrhoid pushing down on the sphincter and the sphincter contracting on the fissure. The erythema referred to above reappeared five times in a week and a half, on different portions of the upper part of the body. The localized redness lasted from five to eight hours, and was followed by a very fine, slight desquamation. The suffering from neuralgia in the left leg was intense, and a movement of the bowels occurring in the morning prostrated the woman for the whole of the day. She continuously lost strength, her appetite failed, and finally, in disgust at the way things were going, I told her husband that if he continued to refuse to allow me to operate, I should throw up the case. At that he reluctantly decided to let me go on, and so under ether I stretched the sphincter, cut the fissure, and removed the hæmorrhoid, proceeding in the ordinary way.

It required four weeks for the woman to recover from her exhaustion, and since then, it is now more than two years, she has enjoyed perfect health. She has had no attacks of dyspnœa, no hyperæmias of the skin, no vaginismus, no sciatica, and back of all these improvements, no irritation in the rectum and anus. This case was peculiar on account of the intensity of the reflexes and the peculiar character of the hyperæmia referred to. If the simple little operation had been performed several years ago, it would have saved the woman a great deal of trouble. Another patient illustrating a rather similar type of case is that of Mrs. N——, aged sixty-five, who presented all the symptoms of ulcer or fissure of the anus, together with a burning pain on passing urine. Examination showed no anal or rectal trouble whatever. The urethra seemed normal; there was laxity of the vaginal walls that was to be looked for in a woman at her age, and there was a slight retroversion of the atrophied uterus. For this a large Albert Smith pessary had been applied, but, as is often the case with pessaries, it had increased the irritability of the rectum besides making painful pressure at the neck of the bladder. She had been treated with demulcents and alkalies for the burning on urination, but they had done no good. Numberless local applications had also been made in the rectum, but without avail. I first saw the patient in November, 1888. She called me in to remove the pessary referred to, which had become intolerably painful. I examined a specimen of the urine and found it alkaline, but otherwise normal.

The condition at once suggested anal fissure, irritable ulcer or hæmorrhoids, but I could find nothing about the rectum or in it that seemed to have any bearing on the case. The pain accompanying and following defecation, together with the scalding of the urine and tenesmus of the bladder, had remained about the same for six months, and the woman was beginning to show the wear and nervous strain of the thing. I have a little speculum designed for the nose, which I have modified a little and used for urethral dilatation. By its use one can see the outer half or three-fourths of an inch of the urethra very well. I passed it into the urethra in this case, and you may imagine my surprise on seeing a large urethral caruncle, crowding up between the blades of the little instrument, about half an inch within the canal. It was fiery-red in color, bled easily on being touched, and was exquisitely tender. I inserted a pledget of absorbent cotton soaked in a five per cent. solution of cocaine into the canal, and presently was able to cut away and remove the little tumor. After five or six days, when the little pedicle had healed and the irritation subsided, the woman found that all of her distressing rectal symptoms had disappeared. These symptoms in the case were of a purely reflex type, and it is not difficult to understand the connections between them and the causal irritation in this case, nor the spasm and vaginismus in the first case; for the urethral orifice and the anus are supplied by terminal filaments of the same nerve, the pudic, and it is a well-known fact that irritations at one point in the distribution of a nerve often produce reflex irritations at other points in the distribution of the same nerve. It is not so easy to explain the circumscribed hyperæmias in the first case referred to. They were presumably due to a vaso-motor paralysis, but why they should occur only on the upper part of the body, and what the indirect connections are between the

pain of a fissure in ano and the circulation in the areas referred to, are questions difficult to answer. The prompt disappearance of all the symptoms in both cases, as I have said, fully verified the diagnosis. The last case to which I wish to call your attention is of a distinctly different type. It is that of T. B——, aged seventeen. This boy was a homeless tramp, who had drifted away from the coal mines of Eastern Pennsylvania in which he had been working ever since he was nine years of age. He had been picked up in the street by the ambulance and brought to the hospital of which I was an interne at that time. The ambulance surgeon reported that he had found him in some sort of a fit. He was anæmic and emaciated, and undeveloped for his age.

Examination revealed nothing abnormal in the chest except an anæmic bruit with the first sound of the heart. His temperature and respiration were normal, and his pulse somewhat accelerated. He said that he had jumped on a coal train at Scranton, three days before, and had come down to Hoboken, but he did not remember much of anything else since his arrival there. The first and plainest indication in his case was that he needed feeding, and it seemed that the lack of food was his principal trouble.

He said, however, that for the last six months he had had "awful bad" headaches once in a while, with dizziness and a very bad feeling in his stomach. His exhaustion and starvation were very soon overcome by a milk diet. Two or three days after his admission he complained of the pain in the head. He had marked vertigo, so that he fell on trying to walk across the ward. The headache was of the burning, throbbing variety, and very severe. He was a very dull, ignorant youngster, of the lymphatic temperament, and the reality and severity of his pain were beyond question. Before and during these attacks of headache and vertigo, he always complained of a sensation in his stomach which he described as being as if he had a piece of coal there, and he frequently had a sudden excruciating pain through the abdomen which he could not locate very definitely.

During the attacks of vertigo and headache his pupils were sometimes very much dilated, usually being unequally so. These attacks were sometimes so severe that he became unconscious and had slight convulsive movements resembling seizures of petit mal. The case was obviously very obscure, and after his visiting physician had given him large doses of bromide for two weeks, to no effect at all except that the treatment made his general condition rather worse, he called a consultation of the medical staff of the hospital. Those were the days when I thought that most of the medical and surgical wisdom on earth was concentrated in our hospital staff, and I looked forward to this great combination of diagnostic skill as the only thing necessary to settle the vexed question. But alas! I did not then know as much about doctors in general. and hospital doctors in particular, as I later learned by sad experience—and I am sorry to say that of course they disagreed. One of them said it was gastric neuralgia, or beginning ulceration; another, an enthusiastic neurologist, said that the attacks were probably epileptic in character, that the real trouble was in the brain, and that the stomach symptoms were simply incidental and of no real consequence. As a result of the consultation, it was decided to put the lad on medium doses of iodide of potash, and to control the pain with morphine. Under the alterative treatment, his general condition certainly improved and the morphine gave him temporary relief, but his condition as to the recurrence of the lancinating pain in the head, and the "piece of hard coal" and peculiar pain in the stomach remained the same. His appetite remained good, although his dose of morphine was gradually increased, and there was a steady constitutional improvement. His bowels were regular throughout; and so the case went on until one memorable day in April, when our superintendent decided to give the patients who were on "g. w. d." (general ward diet) some salt mackerel for breakfast. They had been purchased at a bargain, especially for the hospital, and were doubtless "real cheap." Now, something had happened to those fish, and they had acquired that peculiarly rich, gamey, and aromatic odor, having which they are commonly described as being "sprung." After breakfast we started to make morning rounds, and were met on all sides with doleful tales of "throwin' up," and "heavin' off," due to over-flavored fish. About two-thirds of those who had eaten the mackerel had vomited, and they were all deeply grieved, but when we reached our young patient's bedside, we found him smiling as broadly as he could between his emetic successes. He looked up at us as we came along, and pointing to a basin on a chair near his bed, said: "There's them fits!" We looked into the basin and there we saw two very healthy, actively squirming, and unusually large, round worms. He was right—the basin contained his vertigo, headache, petit mal, gastric neuralgia, gastric ulcer, and all; all were there, represented in the activities of those two worms. The boy's recovery was instantaneous and complete, and he lived to steal twelve dollars from one of the nurses and get away with it; but nevertheless, I do not advise the addition of stale fish to the therapeutic resources of general hospitals.

SYPHILIS IN JAPAN.

By ALBERT S. ASHMEAD, M.D.,

NEW YORK.

Much of the prostitution of Japan is licensed. In the larger cities this is so, and in various provinces. In the former it is the usual custom to set aside allotted sections for this purpose, and, cunningly, in most instances, on the direct way to and near some celebrated and popular Buddhist or Shintoô shrine, or other attractive place for the multitude. In the city of Tokio the prostitutes' quarter was upon the road to and near the Temple of Asakusa, the largest and most popular of all the temples in that city, and which still preserved, in declining glory, its celebrated wooden health-god, to which Buddhist superstition attributes mythical medical power to heal the sick and deliver from pain. It was nearly obliterated, however, through the Buddhist "rule of treatment" requiring the part of the image corresponding to the affected part of the believer to be gently rubbed, while prayers were offered to his majesty and money thrown into the "capacious jaws" of his treasure-box, this venerable superstition being a remaining legacy from olden medical priesthood.

A peculiarity of Japanese prostitution is the surprising fact that it entails no dishonor or disgrace subsequently on its "divinities." A woman because she has at some time occupied this "enviable" position is in no way curtailed in her marriage availability. She may afterward form a union without social stain or ostracism, it being reasoned that a "social evil" is necessary in a nation of men and women, and that what contributes most to the happiness of the multitude is wisest in their day and generation. And probably, too, that in a country whose maximum of population has at one time or another contracted syphilis—or escaped it simply because of ancestral protective inheritance through multiple inoculations in preceding generations—no Puritanical or prudish rule should prevent the frank acknowledgment of things just as they are.

A distinguishing style of dress was obligatory upon women of this class, so that persons meeting them might readily perceive their calling. This insured "old maidens" from various possible dangers, while it protected respectable married women much better than their hideous custom of blackening the teeth, etc. It will be just as well to mention here that the purity of domestic life in Japan is not identical with our idea of what should constitute it. I do not mean to intimate that the women of Japan are not virtuous, for they are, but the wife lives

with her husband and children in the same household with his concubines.

Concubinage was general under the older Japanese *régime* before the new order of civilization under the present wise Emperor Mitsuhito, who began his newer government in 1867.

Children of concubines are legitimate, although bearing different surnames. It was not unusual to see a wife and four concubines living in peace, harmony, and seeming contentment under the same marital roof. We have the saying that "no house will suffice to hold two mistresses." I do not know if there is an equivalent expression in the Japanese vernacular, but suppose there must be some limitation to such a "state of things," other than a physical one. I have seen for myself five concubines with a "wife," all living in the same fold; and the lord of this "flock" was my friend, and a particularly fine fellow, without vice—an agreeable gentleman. I have no doubt that he was equally agreeable in his own household. I know that his "numerous choice" of the "fairer sex" were delightful and pretty women, sufficiently so to attract and charm most any one; and, at least so far as I could perceive, no green-eyed monster was alive among them. The Japanese wife, complaisant usually under the prevailing arrangement, is both pure and good, and is equally kind to all the various progenies of her master.

This household arrangement of the Japanese civilization is decidedly "Schopenhauerish;" it would have delighted that radical philosopher and given him fresh pabulum for a new theme.

The medical supervision, control, and direction of this prostitute question in Tokio was a part of my professional service in Japan. With an able corps of sixteen native physicians, regular weekly visitation and examination of these women was made, and those who were found to be diseased were brought to the hospital *lock* wards for treatment, where they were placed in separate rooms according to their types of disease, from four to twenty in a room. On certification of cure they were afterward relicensed by the Government.

The prostitute tax tribute of Tokio amounted to a considerable sum, as there were some two thousand licenses issued, each prostitute paying a tax of two dollars a month, each licensed restaurant or tea-house proprietor who did business in the "prostitute quarter" paying a tax of three dollars a month, and the house-owners themselves, who derived the largest share of profit from the occupation, paying the highest tax of all, viz., five dollars a month, all of which revenue reverted to the hospital. The law forbade public exhibitions of the women of this class at their windows and doors, excepting at stated hours in the early evening. Most of the prostitutes were able to speak many words of foreign languages, their attractions evidently having conquered different European hearts.

A vast amount of venereal disease, in this service, and in that of the regular "in" and "out-door" departments of the hospital, presented itself for treatment. I suppose there were fully ten thousand cases in all, from ten to twenty a day, anyhow, the various forms of syphilis and its sequelæ, being pre-eminent. Primary sores were Hunterian and chancroidal—the latter, in my experience, proving non-infecting, and not the contrary, as was curiously claimed for Japanese chancroids by Dr. Simmons. I have auto inoculated chancroids in Japan and every time have produced a sore. Auto-inoculability of Japanese multiple chancroids is constant; auto-inoculability of Japanese unique chancres is not possible. Phagedæna is rare. I have seen it, however, and very virulent gangrenous types of it, but only in the lower classes and in the underfed. Syphilitic adenitis and lipoma are wonderfully prevalent.

Sloughing in the Japanese is easily induced, probably from their not having had a meat dietary for ages, it being prohibited in the sixth century. I found it not difficult to exsect by suppuration initial lymphatic non-softening infections; the glands would readily loosen and discharge; bichloride of mercury saturations after a blister, with poulticing for thirty-six hours, accomplishing the result. And here let me note that the relative absence of scrofula in Japan is surprising. One would naturally expect to find in so syphilitic a country an extraordinary amount of it, but this is not the case. It is rare to meet with it.

Dr. D. G. Brinton, of Philadelphia, recently suggested that to my ethnological study of phthisis, syphilis, and leprosy of Japan—I should add a fourth disease of allied disorder—namely scrofula. Much to his surprise, I judge it must have been, I wrote him that the disease was not entitled to much consideration in this relation through its relative infrequency. This statement of mine regarding scrofulosis in Japan is corroborated by Dr. Simmons in one of his more recent articles in the MEDICAL RECORD.

There may be some connection between its marked absence and the mildness or abortive character of tertiary syphilitic symptoms. I have known children of late-syphilitic-manifestation parentage (who were born late in the life of the parent) to show so-called scrofulous symptoms. One American case in particular I recall, that of a Mississippi steamboat pilot, in whom syphilitic appearances developed twenty-six years after the primary sore, and one of whose children, aged five years at the time of the parental manifestation of the disease, showed specific scoliosis, and was treated by Dr. Gibney of this city. Another child (twelve years old) showed the regular glandular enlargements. The elder Dr. Gross, in his clinic, used to say that scrofulous (?) bone disease was often merely modified generational syphilis.

The father of the two children mentioned had, as late manifestations, palmar and solar syphilitic psoriasis with ulcerations, and syphilitic hypertrophy and afterward atrophy of liver.

Syphilides in Japan are papular, squamous, and pustular. Tubercular syphilides are rare, possibly because of their being rather the connecting link between the secondary and tertiary forms of the disease; the latter being abortive, they are absent.

Syphilitic iritis and choroido-iritis are frequent. Cock's-comb condylomata and infecting warts are plentiful, both of the genitals and anus. In women they are more common still, large bunches of them, the size of a fœtal head, often showing themselves in the out-door clinic. When we consider the universal custom of public hot bathing, without proper medical supervision or restraint, is it at all wonderful that venereal warts abound?

Secondary syphilis presents features in no way different from those of our disease here.

Ulceration of mucous membranes is sometimes troublesome to check, but mostly amenable to bichloride washes. And here again, let me say, that sublimate treatment of various diseases in Japan is as old as their ancient Chinese civilization. We can learn from them many of its uses. I believe that the old "Dosia powder" story told by Mr. Titsingh, an early writer on Japan, in his "Mémoires et Anecdotes sous la Dynastie Régnante des Dfogouns Souverains du Japon," in relation to the Japanese production of flexibility in corpses after "rigor mortis" has set in, was not entirely a myth. I rather infer the white sand-like powder used in stuffing the various natural outlets of the body, nose, ears, mouth, etc., to have been simply bichloride of mercury. And it was probably used to sanitarily counteract putrefaction.

Dr. Koempfer, the early Dutch physician and writer, reports in his work, published in London in 1727 A.D., that quicksilver and sublimate of mercury both were imported into Japan from China.

Specific ozæna, with destruction of the nasal septum, is quite common, permanganate of potash being the local remedy relied upon to abort it.

I record one case of parietal bone tertiary syphilis, which was in a young woman, not a prostitute, resulting in considerable loss of bone vault, but which yielded to

heroic iodide treatment, finally recovering and passing out.

Tertiary forms of osteitis are met with, but not as frequently as in European syphilis. I agree with Dr. Simmons's and Dr. Eldridge's statements as to early limitation and subjection of the disease. Much necrosis of shaft bones is met with, but by no means always of syphilitic origin.

Caries of the vertebræ I found to be abundant, with consequent psoas or other abscesses requiring surgical procedure. Digital destructive disease of bone in Japan is mostly leprous. Hypertrophied induration of the tongue is frequently seen, supposed to be of tubercular (?) origin; it is not ulcerative.

Syphilitic valvular disease of the heart is common, in fact the cartilaginous system generally suffers much more, I think, than the bony system.

Destructive suppurative disease of the testicle, usually the right one, not cancerous, but supposed to be tubercular (?), is largely prevalent—at least, it has so shown itself in my service. It might possibly be of sarcocelatous nature. Here let me say that tubercular and syphilitic diseases in Japan are strangely interwoven, they are not nearly as clearly defined in their nature as leprosy. The diagnosis of the former two is many times a puzzle, the two diseases being intertwined clinically in a peculiar way.

Hydrocele is also very prevalent, perhaps due to injury from the barbarous and universal use of the breech-clout, or from the weakening influence of daily hot bathing.

All tertiary forms of syphilis are tractable and quickly yield to treatment.

Syphilitic paralyses are difficult to define, owing to the frequent existence of Kakké neuritis. They are not thought to be so common as with us. Spina bifida is frequent.

The introduction of vaccination was not of importance, relatively, in the multiplication of Japanese syphilis, through occurrence of inter-inoculation.

"Vaccination was first introduced into Japan at Matsumai in the Island of Yezo, from Russia, by a Japanese fisherman in A.D. 1824" (Dr. Whitney). The Island of Yezo is the home of the peculiar aborigines of Japan, the Ainos, who gave to that country their practice of tattooing. Tattooing is supposed to have originated acupuncture.

"Vaccine virus was introduced to Nagasaki, which is on the island of Japan proper, by Dr. Mohnike, a Dutch physician, twenty-five years later than in Yezo, viz., in A.D. 1849" (Dr. Whitney).

"Inoculation was first practised in China before the ninth century; but small-pox was known in China before the second century" (Dr. Wylie).

"First epidemic of small-pox in Japan, A.D. 735" (Dr. Whitney).

First written work on syphilis is supposed to have been written or published in A.D. 809.

The practice of acupuncture must surely have propagated much small-pox and syphilis in Japan through inoculation!

"The 'tube acupuncture needle' was invented in A.D. 1688" (Dr. Hepburn).

"Rise of the school of Yoshimasu Tamenori, which held all diseases to be due to one specific poison, and that treatment should consist in neutralizing this poison by another poison equally powerful—a kind of homœopathy! A.D. 1751–1763" (Dr. Whitney).

Rather a dangerous belief in a syphilitic and leprous and acupuncture country! I have vaccinated lepers and children of lepers, without noticeable difference. I have auto-inoculated lepers without result, so far as I had opportunity of ascertaining.

"Vaccination was introduced at Canton, China, by Dr. Pearson, before A.D. 1805" (Dr. Wylie).

"An Institute of Vaccination in Japan was established in A.D. 1858. This was the foundation of the modern Medical Department of the University of Tokio" (Dr. Whitney).

Vaccination was made compulsory in Japan in 1874. This was the year of an epidemic of small-pox in Tokio, in which I was professionally engaged. In consequence of this compulsory law, from two hundred to six hundred vaccinations were performed daily, three days in the week at the Tokiofu Hospital, the system pursued being to have twenty diamond-shaped lances armed with virus ready, on a round table for the operator. The patients were brought up with arms bared, and rapid subcutaneous insertions were made, the lances being afterward washed, disinfected, and re-armed for the next batch of patients. Rarely were arm-to-arm inoculations performed. The virus used was the German importation in glass tubes. But few failures resulted and no bad effects, so far as syphilis was concerned, ever showed up. For two months these vaccinations were very considerable, gradually declining, from decrease in the number of presenting applicants. No thorough house-to-house vaccination could be made. Some was done, however, but the main vaccination occurred in the hospital.

I am sorry not to have statistics to present. Statistics in Japan are apt to be modified in the interest of some particular influence, and therefore rarely accurate.

The first Japanese gold was found and melted in A.D. 749; Japanese silver was found in A.D. 674, preceding the discovery of gold. Mercury must surely have been known to the Japanese, in their refinement of gold, at this early period, for gold was known in China from earliest times, and the Japanese would certainly have learned its refinement through the Coreans.

Dr. Simmons in THE MEDICAL RECORD, vol. xix., 1881, says as follows: "Syphilis (in Japan) is very prevalent, so much so that we think we are safe in saying that three-fourths of the male population, especially in large towns, suffer from it sooner or later. Our observations have led us to the opinion, however, that its manifestations are less severe than among the Europeans. Thus, with the universal opportunity which we have had of seeing the disease, we have found the secondary lesions as affecting the mucous membranes, in most cases, very transient and often wanting. Caries of the bones and other manifestations we also regard as relatively infrequent. The fact that, in former times at least, every case of primary syphilis was treated by thorough mercurialization may account for the mildness of the tertiary lesions mentioned." To this explanation of Dr. Simmons may be added that their habit of eating so plentifully of iodized sea-weed—a Japanese universal article of diet, would also be an influential cause of its mildness. Dr. Simmons also says as follows: "We may mention in this connection that it is a popular opinion in Japan that small-pox is much more severe in its national form, in those whose parents had never had the disease, or who had been prevented from having it by vaccination. Even if our observation as to the mild type of syphilis in Japan be correct, it is impossible to believe that its effect on the whole people is not profound, and serves to explain in some degree the generally admitted fact of the physical inferiority of the race, as compared with Europeans, and also the relative slow increase of the population thus favorably situated, during the last two hundred years."

I would add to these accurate observations of Dr. Simmons that the Japanese habit of persistent hot bathing may have had a good deal to do with their resistance to the destructive influence of the disease. Also, that for centuries back they have been conversant with the value of dry mercurial baths (burning cinnabar — binoxide or sublimate—under a canopy). They have also used in venereal throat affections inhalations of mercurial vapors.

What a Japanese or Chinese adept does not know of the beneficial venereal uses of mercury we Europeans certainly cannot teach him. There is one of its uses in general medicine not known to him and that is gynecological antisepsis. There is no puerperal fever in Japan,

nor scarlet fever, two diseases of mutual absentive significance. I record it that I have never seen a single case of either in Japan. I was told, however, that scarlet fever did exist, and that it was quickly fatal. I doubt it; for its presence would imply the presence of puerperal septicæmia, and this is absent. There is no gelding of horses in Japan, which may have an effect on eczema or distemper of the young horse, and this may have something to do with the absence of scarlet fever.

Fortunate women of Japan, to have escaped bichloride tablets! Perhaps an explanation of the absence of puerperal fever might be found in their exclusive midwife delivery of children. The solitary parturient woman, in a stooping-sitting posture, "bears down" on cords suspended directly above her, the midwife expressing downward with both hands on the patient's abdomen.

Diphtheria is also absent, and this fact, too, has a significant relevancy to the non-existence in Japan of puerperal fever. Mercury was puerperally and surgically unknown to Japan for antiseptic or aseptic purposes, though introduced perhaps in later years. Their surgery is only secondary. In this connection let me say that the country has for ages been without milk in its dietary. Milk and butter have never been used in Japan. The babies of this nation are not "bottle-fed," rarely artificially fed. Should necessity demand it, they are given thin rice-water or mother-chewed rice-cake. These are the "baby-foods" of Japan. Their women nurse their offspring and rarely wean them, sometimes having three children of different ages at the breast. The breasts of many of them never rest from secreting milk. Mastitis is frequent, but cancer of the breast is rare. I did not meet with one case.

Hart, of London, tabulated a review of seventy-one epidemics that had been attributed to infected milk. Three diseases he recognized as being so propagated: Typhoid fever, from the milk being adulterated with germinal well water (typhoid fever is abundant in Japan, yet they have no milk, and drink only boiled water flavored with tea-leaf), diphtheria, not clearly definable as to the mode, and scarlet fever, from persons about the dairy, who take care, at the same time, of persons ill of scarlatina, and the branny dust of the disease finding access to the milk.[1] All of which is very interesting in connection with the joint absence of scarlet fever, diphtheria, and milk diet from Japan.

Dr. Stuart Eldridge, of the Yokohama General Hospital, in the *Pacific Medical and Surgical Journal*, vol. xxiv., October, 1881, says as follows, regarding syphilis in the native of Japan: "It is almost commensurate with human life itself; all ranks of society suffer and probably in proportion far more nearly equal than in most other countries. It is very rare to find a male Japanese who will not acknowledge that at some time he has suffered with syphilis, while the general distribution of the disease, with the fact that little or no shame or disgrace attaches to the possessor of a venereal taint, renders its recognition by the people a matter of certainty and gives credibility to their statements in reference to personal experiences of its results." And farther on he says as follows: "The disease is benign." Also, "In this connection it would be interesting to take up the question of the convertibility of syphilis into other diseases, *e.g.*, scrofula; strong evidence against such convertibility can be obtained in Japan." As to the causes of syphilis Dr. Eldridge says: "They are prevalence of immorality, as with other Asiatics, and absence of fear as to consequences or anxiety, which leads to carelessness as to exposure or prevention. Syphilis having run riot in Japan for centuries, has to a certain extent worked its own cure, whether due to a gradual weakening or attenuation of virus or, as I am inclined to believe, to an insensibility to its action, the result of a universal taint, it is at present impossible to say." Dr. Eldridge believes that "its virus has become modified, because the blood of the natives through inheritance has become more or less infected, and so contagion is modified." Which is not at variance with pathology.

"It seems that in Japan we have only an exceptional progress in that amelioration of syphilis which has been going on, though not so rapidly, in other and better-known countries. That we rarely meet at the present day in Europe and America with the fatal and loathsome malady known to our ancestors as syphilis is generally acknowledged, while of syphilographers the younger school seem to rival each other in painting, not the horrors, incurability, and mortality of the disease, but its benignity, docility, and altogether trifling character." To all of which I cheerfully subscribe.

I believe in the Japanese developmental theory of disease, that diseases germinate or become modified by surrounding conditions. How can we explain the development of pulmonary tuberculosis, so often following acute syphilis? Generations of disease, too, may "vaccinate" a nation's blood. A disease that is non-auto-inoculable may give to a succeeding generation, not only its own specific inheritance, but a measure of resistance as well. The child of leprous parentage may not give to its children the same legacy that it received. What inference may be drawn, too, from the fact of "malignant leprosy" having preceded "galloping syphilis" in Europe. "Malignant leprosy," according to Michael Scott, "De Procreatione Hominis Physionomiæ," A.D. 1250, was contracted by sexual intercourse with lepers, a constitutional disease was produced by intercourse with a "leprous" woman, which disease was preceded by a penile ulcer.[1]

Dr. Kiernan also avers that "similar statements were made by various earlier writers," and "that 'galloping syphilis' originated in Spain A.D. 1484."

Between Portuguese leprosy and Spanish syphilis, and their relation to Moorish conquest, and the evident inability of earlier European writers to properly define a difference between the two diseases, and the simultaneous presence in Japan, from ancient times, of syphilis and leprosy, with determining gradual amelioration in type of the former, through evident inherited national resistance, there is a broad field for study.

Dr. D. G. Brinton writes me as follows: "The origin of syphilis is still an open question. It seems to me probable that it existed time out of mind in both the new and old worlds, but assumed a peculiarly malignant form in Europe at the close of the fifteenth century. Certainly, in America, syphilis of the bony system existed before the discovery, as is shown by the relics in ancient graves. Just at present Dr. Brühl, of Cincinnati, and Dr. H. N. Clarke, of Chicago, are making special studies on this point.

In conclusion, I will merely add that, in order to trace the analogy, I have written to friends in Japan to obtain, if possible, bones of lepers and syphilitics from the ancient graves of their older cemeteries. Whether the attempt will succeed or not it is difficult to say, as ancestor-worship of Confucianism is still in vogue among the baser classes, to which all lepers, at least, belong.

4 KING STREET, NEW YORK.

[1] New York MEDICAL RECORD, vol. xxi., 1882.

Fracture of a Rib from Coughing.—Mr. E. C. Masser reports in the *British Medical Journal* for April 26, 1890, the case of a man, aged fifty-four, who was suffering from bronchitis and Bright's disease. One evening he sent for the reporter, saying that he had great pain in his side. Upon inquiry it was ascertained that during a violent fit of coughing he had heard a snap, and had since felt a sharp pain in the same spot. Examination revealed the presence of a fracture of the rib. This healed as readily as could be expected in a man with bronchitis, and there were no signs pointing to any previous disease of the rib which would render it specially brittle.

[1] Dr. Kiernan in Antisyphilitics of the Sixteenth Century, Chicago Medical Standard, February, 1890.

THREE CASES OF ACUTE, PAINLESS, DRY PLEURISY, WITH REMARKS ON THE PHYSICAL SIGNS AND PROGNOSIS OF THE DISEASE.[1]

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The first case that I desire to bring to your attention is that of a boy, aged eleven, whose previous health had been good, except for nervous symptoms due to ocular defects. His illness dated from a chill, caused apparently by exposure. This was followed by cough, slight, but not constant, elevation of temperature, and general depression out of proportion to any manifest disease. Moist, superficial subcrepitant sounds were heard along the anterior border of the left upper lobe a week after the chill, cough with slight expectoration continuing. The superficial subcrepitant sounds extended finally over almost the whole surface of the left lung. For several days they were always present at every examination, and then gradually disappeared in about two weeks from their first appearance. During this time no pain whatever was felt. No morbid sound whatever was heard over the right lung, except an occasional coarse rhoncus. Toward the latter part of the case a slight feeling of traction was felt by the patient on deep breathing.

The patient made a complete and speedy recovery under rest, moderate counter-irritation, and tonics, mainly.

The second case was that of a man about forty-five years of age, with a florid complexion, rather stout, and disinclined to take much exercise. He had a short time previously suffered from an attack of influenza during the late epidemic, went back to business, and had to lay up again, suffering from a severe cough without much expectoration, much prostration, slight elevation of temperature, and neuralgia of one supra-orbital nerve, a complaint to which he had long been subject. Physical examination showed superficial subcrepitation over the lower right lobe. There was no dulness appreciable. There was absolutely no pain on breathing or coughing, only the patient said that his cough "came from his right side." Under quinine and arsenic, with occasional doses of phenacetin, and very small doses of aconitia for his neuralgia, the patient was entirely convalescent in two weeks, slight subcrepitation still existing when, owing to his complete recovery as far as subjective symptoms were concerned, he was allowed to pass from under observation. His urine was normal.

My third case was that of a lady approaching middle life. She had been subject for some years to cough with expectoration, and had gradually become considerably emaciated. She was seized with very intense dyspnœa during the night, having had a chill during the previous day. It was during this attack that I first saw her. The pulse was rather feeble. Weak emphysematous respiration was present over the whole right lung. At the left apex there was dulness and hollow breathing, which persisted after convalescence from her acute trouble, and was evidently due to an old lesion. Over the whole of the left lung was to be heard superficial subcrepitation. She passed 610 c.c. of acid, turbid urine in twenty-four hours, containing albumin, which formed a bulk of ten per cent. on depositing, urea about nineteen grammes, and numerous hyaline and granular and a few epithelial casts. Its specific gravity was 1.022. The subcrepitant sounds followed the same course as in the two preceding cases. The dyspnœa was intense and agonizing for some days. Neither pleuritic pain nor effusion that could be recognized followed. In spite of an extremely unfavorable prognosis given by a prominent consultant, she gradually regained strength, the slight fever from which she had been suffering and the subcrepitation disappeared; her urine became normal, and she has returned to her occupation as a school-teacher in a tolerably comfortable condition. Cardiac tonics and Basham's mixture were the main therapeutic agents used. Cough and expectoration, she thinks, is less than before the acute attack, but she suffers considerably from dyspnœa. Owing to an almost morbid sensitiveness about having her case investigated, I was not able to obtain a specimen of her sputum for examination.

The first point of interest about this little group of cases is the latency of their course as far as subjective symptoms of pleurisy were concerned, though all suffered more or less from cough. A second point is that in none of them, though repeatedly and carefully examined, did there ever occur a rough friction-sound. In all, the only physical sign was a subcrepitation, not distinguishable in quality of sound from an intra-pulmonary râle. In fact, in two of the cases I regarded the sounds at first as intra-pulmonary. As they extended, however, their pleuritic origin became evident from their superficial character, the fact that extensive areas of a single lung was in each case involved, and the constant presence of the sounds day after day in the same place. Had they been due to bronchial râles they would have been bilateral, inconstant, and affected by cough. All systematic writers call attention to the fact that pleurisies occur without characteristic symptoms, and probably sometimes without physical signs. In practice, however, I am inclined to think that inflammation of the pleura is not likely to be thought of unless it is suggested by pain or extensive effusion. This is particularly apt to be the case when the physical indication of the lesion is not a rough, grating murmur, which cannot be readily misinterpreted, but is, as in the above cases, not distinguishable in quality from intra-pulmonary sounds. The possibility that râles, coarse and fine, may be of pleuritic origin was recognized by Walsh,[1] in 1842. This is to day, I suppose, recognized by all authorities, Dr. J. R. Leaming, of this city, going so far as to teach that almost all râles are of pleuritic origin, a position which can hardly be recognized as conformable with what seem to be facts to most observers. It has seemed to me, however, from my own observation and intercourse with hospital internes particularly, who are fresh from the schools, that sufficient stress is not laid on this subject in teaching. Fourteen years ago I had an opportunity of watching the persistence of a crepitant râle in a case of pneumonia through every stage of the disease, and of hearing it still when the patient was discharged convalescent. This convinced me that, as Dr. Leaming teaches, the crepitant râle of pneumonia was a pleuritic sound, in that case at least, as its persistence through the varying stages, from consolidation to complete resolution of the pulmonary exudation, was not conceivable on the theory of its production in the alveolæ. The crepitant sounds heard at the apex in early phthisical consolidation are usually spoken of as râles indicative of local bronchitis. To Dr. Leaming and, if I am not mistaken, to Dr. A. L. Loomis, they are indicative of pleuritic exudation. In these two instances the question of interpretation is of theoretical interest only. In cases such as I have above cited, however, the distinction between pleuritic and intrapulmonary sounds is of primary importance in diagnosis.

I next desire to say a few words in connection with the above cases concerning the etiology and prognosis of diseases of the pleura. It is customary to divide pleurisies etiologically into primary, or those which arise apparently from causes acting exclusively on the pleura, the pleurisy being the main disease, and secondary, or those which occur as a local manifestation of a general disease or from the extension outward of some lesion of the pulmonary parenchyma. In the case of the peritoneum, as knowledge has extended primary or idiopathic inflammation has about disappeared from our nosology. In a case of peritonitis not due to direct traumatism we look for some general disease or infection of which it is a local manifestation, or a lesion of some pelvic or abdominal viscus

[1] Read before the Harlem Medical Association, April 2, 1890.

[1] Diseases of Lungs and Heart, second edition, p. 126.

of which it is the extension. The same mental attitude ought to be assumed in all inflammations of the pleura, although much still remains to be discovered in this field. In a recent analysis of 163 cases of pleurisy, apparently primary, occurring in the Zurich clinic in the course of ten years, Engsten [1] found 71 in which no known cause could be found. In 22 cases there was phthisis in the family. In 31 cases exposure to cold was given as the cause, 29 of them being pleurisy with effusion and 2 only dry. In many of these cases the pleurisy followed a few hours after a definite exposure to chill. Four cases were attributed to over-exertion, 1 to injury without recognizable lesion of ribs or skin, 16 had pneumonia, and 17 pleurisy on previous occasions, 2 occurred in childbed. An attempt is made by the author to show that these cases occurred in groups and to deduct from that fact the probable infectious origin of the cases, but his figures are too small to be very convincing. The thought occurred to me very strongly in the first case above narrated, viz., that of the boy of eleven, that the general depression of the patient was altogether out of proportion to the local disease, and that I was really dealing with a general disease of unknown nature of which the pleurisy was a local manifestation. In the second case, viz., that following influenza, the prostration was of course readily accounted for. Whether or not the pleurisy was a local manifestation of the disease or an intercurrent complication due to some other cause I am not prepared to say. The third case, viz., that of the lady with a history of cough and emaciation, with a vomica in one lung, and with albumin and casts in the urine, at first sight pulmonary tuberculosis, the often accompanying chronic nephritis and a tubercular pleurisy, an index of increased activity of the tubercular process, seemed only too probable. As the patient, however, regained a relative degree of health in a short time, the probability seemed that the old pulmonary disease was a chronic bronchitis and emphysema with a bronchiectatic cavity at the left apex, that the kidney trouble was acute, and that both kidney and pleural lesion were due to some infectious agent, the onset of the disease beginning abruptly with a chill and all passing off in a few weeks, leaving the patient, as far as her pleura and kidneys were concerned, as it found her.

I wish, in closing, to say a few words upon the prognosis of pleurisy, or perhaps I should say of the cases which present the physical signs of pleurisy and nothing more, as upon this rests the importance of the recognition of the seemingly slight cases that I have chosen for my text. In the London *Lancet* of 1885, vol. i., is to be found a series of lectures by Sir Andrew Clark on "Primary Dry Pleurisies," in which he calls attention to the frequency with which fibroid phthisis develops from what in its inception is apparently dry pleurisy, often very latent symptomatically. From the pleura the fibroid process, which is generally unilateral, extends into the pulmonary parenchyma until the lung is more or less extensively crippled. The desirability of detecting such a case at the onset is too obvious to be insisted upon. It is perhaps not probable that any of my cases belonged to that category, as all began, progressed, and departed like acute infectious diseases. The middle-aged, stout, and flabby patient, however, was the kind of a patient to get up degenerative changes of one kind or another, and at an age at which fibroid phthisis is apt to develop. I suppose that few physicians to-day question the etiological importance of the tubercle bacillus. It is as generally recognized that a predisposition on the part of the patient, consisting either in constitutional or local vulnerability is essential to the implantation of the disease. A pleura damaged perhaps by just such a latent process as those above cited and not properly treated, simply because a proper diagnosis has not been made, may prove just such a predisposing cause. A patient whom I recently examined, having previously been a strong man, began to cough and have pain in his left side last December. The pain was severe on coughing or sneezing, but did not prevent him from working. When first examined by me he had dulness, defective motion, and pleuritic crepitation over the left lower lobe. The apices and the right lung were at that time free. He was, however, coughing up considerable yellow mucopus and was very weak and cachectic. The physical signs were those of an old pleurisy, the appearance and history were those of phthisis. Examination of the sputum showed quite numerous bacilli. It seems quite probable that in this case a primary pleurisy had acted as a local predisposing cause which had rendered possible the implantation of tubercular disease. Masked by the pleurisy there undoubtedly existed tubercular foci not recognizable by physical exploration.

Another case that I would like to mention was that of a man who claimed to have been healthy two weeks previous to admission to the hospital, when he was seized with acute pains across the body in the diaphragmatic region. These were present on admission. A rough friction followed by considerable effusion occurred on the left side, later a rough friction without appreciable effusion and lasting for several weeks, occurred on the right. On the left side the effusion diminished until it was reduced to a dull area corresponding to the portion of the lower lobe posterior to the axillary line. Over this area respiratory signs were absent, the voice-sounds distant, vocal fremitus abolished, and the hypodermic needle drew only blood. The movements of the thorax were less than on the other side, the left chest was, however, only one-fourth of an inch smaller than the right. There was, therefore, a mass of solid exudate in all probability occupying this area.

This case was of great interest, because double pleurisies are generally of constitutional origin and frequently tubercular. If the patient's statement could be relied on the onset of the disease was acute. The improvement in his condition, which would have been rapid for a tuberculosis case, and the absence of bacilli from the sputum told strongly against the tubercular origin of the case, a view that I was first inclined to take of it. A practical point of great importance to the patient was that I kept him in the general medical ward pending the making of a definite diagnosis instead of sending him into the ward devoted to phthisis patients. Had I done so, in a month's time his sputum would have probably been teeming with bacilli, and I would have been congratulating myself on my diagnostic acumen on false grounds.

My main object in bringing this little group of cases to your attention is to refresh your memories in regard to the occurrence of inflammations of the pleura, which are nearly or quite symptomatically latent, and to suggest the importance of their recognition. Diagnosis is often, as in the three cases cited at the beginning of the paper, not difficult if only the possibility of their occurrence is kept in mind and an intelligent analysis is made of the physical signs noted on repeated examination and of the history of the cases. Such cases come under the observation of the general practitioner rather than of the specialist. Upon him devolves the grave responsibility of diagnosing and treating most diseases in their incipiency. Upon the breadth of his knowledge, the acuteness of his powers of observation, and the soundness of his judgment hangs the fate of the patient, rather than upon the skill of the specialist, who often is consulted only after disease has progressed beyond remedy. The task especially of stamping out that great scourge of our race, pulmonary tuberculosis and its kindred diseases, devolves upon the great body of the profession. The habit should be more generally cultivated by us all of observing the constitutional tendencies of patients, and even when the disease in question in a given case is trifling, we should systematically look beyond the present disorder and consider what light it sheds upon the patient's future prospects.

[1] Beiträge zur Aetiologie und Therapie der primären Pleuritis, Deutsch. Arch. f. klin. Med., xlv.

106 WEST 122D STREET.

THE EXCLUSION OF LIGHT IS NOT BENEFICIAL IN THE AFTER-TREATMENT OF CATARACT OPERATIONS.

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CONSERVATISM in medicine often resembles a rut, more or less deep, in which thought or want of thought can be well hidden by those who are constantly traversing this special road. We get into certain ways of doing a thing, whether these be right or wrong, useful or useless. It often needs some convulsion, a little short of a dynamite explosion, to lift us out of this well-worn groove. When we get accidentally on the upper surface we observe that there are other roads to the goal for which we are striving, some smoother and more direct than the one which we had so long used. We would never have discovered these, had not accident forced us out of the old well-trodden path. In this category I place the orthodox, called classic, after-treatment of cataract operations.

For many years but one stereotyped method has been followed by ophthalmic surgeons, when everything else was changing around them. Instruments and manipulations were all being modified for the better, but the old habitual, faulty bandaging of eyes remained.

This bandaging of eyes was a plan devised long ago by a leading surgeon, when ophthalmic surgeons of note were few. It was adopted by those who followed his teaching, and in time it became general. It was based upon the prevailing belief that absolute quiet in the dark was necessary for the healing of a corneal wound. The plan selected was as follows: After the clean wound was made by the sharpest of instrument, and the opaque lens was removed from the eye, both eyes were covered by soft compresses which were well secured in position by bandaging the head. The patient was then put to bed in a room from which all light was shut out. In this dark chamber he was kept absolutely quiet, all causes for excitement being carefully excluded. In this condition of seclusion he was constantly watched for eight days. The bandages were removed daily for eye-inspection by candle-light, and were then replaced. At the end of eight days the corneal wound was presumed to have healed, and the bandages were no longer continued. On account of the absolute darkness to which the eyes had been submitted for so long a time, they would exhibit extreme irritability when exposed to the least light. The windows of the chambers were therefore covered by heavy curtains, until such a time as the eyes had regained some little of their former strength. Under the protection of dark-smoked glasses and brow shades, light was day by day slowly admitted, until ordinary day-light could be borne. Good results came to the patient from the carefully performed operation, and under the confining treatment. It was these final good results which were so much to be desired. Hence one surgeon after another fell into this rutty method of treating such cases. The dark room, with bed confinement and absolute quiet, became the orthodox treatment of cataract patients. No one questioned the propriety of this course, so universally adopted.

I got into the rut which my teachers had so well trodden, and for twenty-five years I steadily followed this classic method of dressing and treating my cataract patients. In hundreds of cases, after cataract and iridectomy operations, I followed this restraining and confining method without questioning its value. In visiting such patients at noonday, a candle was a necessary and constant companion to see one's way in the dark sick-room. This routine is still kept up by many. It is one of the relics which ophthalmic surgery has not yet shaken off.

The large pledget of soft lint which was secured over both eyes adapts itself to the irregularities of the socket, and is supposed to exert an equable pressure over the whole front of the eyeball, keeping it quiet and promoting healing thereby. When after one week's confinement in the dark room the bandages are removed, the sensitive eyes stream with tears. This symptom is explained as the natural consequence of the operation. We expect to see this weeping of the eyes when the bandages are finally taken off after the eight days of confinement, and we are never disappointed. All eyes weep in the dark after the removal of the confining cataract dressings.

Four years ago I began to doubt the propriety of this universally adopted method of treating cataract patients. I first questioned the confiding faith in the supporting bandage. The eye, after cataract extraction, presented itself to me as a hollow elastic ball, with an incision made into its upper surface of one-third the circumference of the cornea. As I inspected it, when the extraction operation had been completed, the lips of the wound adjusted themselves so perfectly to the opposing surfaces as to exclude detection. Here was a perfect adaptation which the closing of the lids did not disturb. If I pressed upon the centre of the cornea the wound showed a disposition to gape, which tendency disappeared the moment pressure was relieved. The question which suggested itself to my mind was this, viz., Did not the compress, secured over the eye, make just such pressure upon the prominent cornea as I had made with my instrument, and was not a tendency to disturbance created by its presence? As the patient lay upon the operating-table with eyes closed, I knew that the adjustment was perfect, and the eye in the very best condition for rapid healing. If I could keep it in that condition for only a few days I felt that the wound must cicatrize, and that the very best results would be secured. How to keep it so was the question. It seemed to be rationally answered by this suggestion: Keep the lids together by the careful application of a piece of light, non-irritating, diaphanous adhesive plaster, rather than by thick compresses and bandages.

I adopted this method of treatment. A piece of salicylated soft silk, isinglass plaster, one and a half inch long and one inch wide, was placed upon the closed eyelids. It extended from beneath the brow well down upon the cheek. It was not as wide as the lids, and therefore left the angular margins exposed for the ready escape of secretions, and also for the instillation of eye-drops, without the displacement or removal of the retaining plaster. When dampened by a little water and its surface pressed by a spatula, in its wet, limp condition it adapted itself to every irregularity of the lid surface. In drying, it kept the lids together as if they had been an unbroken septum, and that without making irregular pressure upon the cut eyeball. The plaster being diaphanous, every lash could be seen as it lay stretched out on the cheek. The eyelids could be inspected through the plaster dressing as when the compresses are removed for the daily examination under the old treatment. This seemed to be, theoretically at least, a perfect eye dressing.

My first experiments were watched from day to day with anxious care. I always found some secretions escaping, seldom enough to detach the plaster, and never enough to disturb its transparency or to interfere with the inspection. In the old treatment I daily examined the eye-cloths and compresses. If comparatively clean, I accepted their condition as an index of the absence of inflammation, and this without looking into the eye itself. The appearance of the adhesive strip, without its removal, I found an equally good index of the condition of the eye. It does away with all eye-disturbances from the daily renewal of dressings. After the eight days of watching, when the plasters were removed, I found thoroughly healed corneal wounds, in every way as perfect as when compresses had been used. The comfort to the patient under the new dressing had been very much enhanced, no head-bands to annoy, or to slip, or to be renewed from time to time. This was an immense improvement over the old method. The adhesive plaster so soon proved itself a simple and efficient dressing that it usurped the

place which compresses and bandages had heretofore held in my estimation.

Once having abandoned the so-called classic method of dressing an eye after cataract and iridectomy operations, the accompaniments of this treatment, upon which so much stress is laid, were one by one modified. The first very important item to be set aside was the dark window curtains and the closed shutters. If the closed eye from which the cataract had just been removed was not inconvenienced by the strong light of the operating-room, I saw no reason why it should not continue to submit comfortably to this exposure. Now, in my practice, a window shade to shut out strong light is the extent of screening found needful.

The next move was to leave uncovered the eye not operated upon, in which there was still some useful sight. With this eye open, and in a moderately lighted room, patients were never for a moment in the dark. They could see to help themselves in many ways, and they appreciated immensely this modification of the old treatment.

The next attack was made upon bodily restraints: the confinement in bed, on their backs, with instructions to keep quiet, and for one or two days to chew nothing, so that the movement of the jaws would not disturb the healing of the cornea. Experience had proven to me that the movements of the exposed eye did not disturb the healing of the cut one, and therefore the movements of the legs, hands, and jaws were less likely to do so. Bed treatment was therefore abandoned. As my daily experience was forcing upon me the recognition of the fact that absolute quiet was not an essential in the successful treatment of cataract extractions, my patients were allowed to move about in moderation. As time wore on, and my percentage of successes steadily increased with the liberties which my patients enjoyed, I became the more confirmed in the value of my modifications in the treatment of such cases.

In the meantime, the removal of cataracts without iridectomy was introduced. I, with others, accepted this improvement, and for the past two years have left the iris intact, with pupil undisturbed. A *sine qua non* for the success of this new operation, we were told, was that patients must be kept absolutely quiet on their backs in bed; that the least jolting would open the corneal wound and allow a piece of the iris to protrude, causing the serious complication of an iritic hernia with ugly results. So confident had I become in the thorough support which the lids, closed by adhesive plaster, gave to the eyeball and the cut cornea, that I made no change in the dressings, nor in the after-treatment for the new operation. My results were equally satisfactory with those who used every bodily restraint. In my early operations without iridectomy, I had every now and then a hernia of the iris; but so had those who adhered to the old method of dressing with bed treatment. I could not attribute this accident to the after-treatment, because it occurred where either method was carefully used. I was more disposed to explain it by some fault in the manual of operative procedure, which I hoped that time and a greater familiarity would overcome. This has proven to be correct. A prolapse of iris now very seldom occurs in my practice.

In cases in which there had been loss of vitreous during the extraction, my superstitious reverence for the imaginary protection of a compress and bandage made me doubt at first the propriety of trusting the eye to the adhesive strap. This feeling I have quite outgrown. Even in these cases I now rely with confidence upon the equable support of the adhesive strap as the sole and universal eye-dressing. If it is carefully applied it will, as a rule, remain on securely for many days, regardless of the escape of secretions. Should I find it loosening on the second or third day, I remove the old piece and adjust a fresh one. If it does not become displaced before the fourth or fifth day, I do not find it necessary to replace it, because by this time the corneal wound is quite healed and needs no longer protection.

Now and then a case presents itself in which the very stiff out-curved eyelashes will not lie smoothly on the cheek under the adhesive dressing. They tend to lift the plaster in a groove along the free border of the lid. They prevent the perfect adjustment of the plaster. It will stick well upon the smooth surface of the eyelid and also on the cheek, but remains irregularly adherent to the lashes. At first this condition annoyed me much, and I would make repeated attempts to get a fresh piece of plaster to lie more smoothly. Now I no longer regard it. Experience has taught me that, should a little lid separation exist after the dressing is applied, no harm comes from it. I have had patients blind in both eyes with one operated upon, remark, an hour after the extraction, that they could peep out of the newly operated eye and see objects dimly. No injury would come from this apparent liberty. The wounded part of the eyeball is always thoroughly covered, supported, and protected by lid-pressure, and that is all that is required for promoting quick healing.

The most striking results of this unrestraining treatment of cataract patients in light-rooms is the comparative freedom from weeping which the eye exhibits when the adhesive strap is removed and the eye is permanently exposed, even as early as the fifth day. This is to me very conspicuous when I examine the hospital work of other specialists who still adhere to the dark-room confinement. Red, watery, painful eyes they expect to see, and are never disappointed. In my practice such red and watery eyes form a decided exception to the rule of comparatively dry, non-congested eyes. This very satisfactory condition I attribute solely to my change in the after-treatment. The red, watery eyes I formerly had, as specialists still have, when I kept patients in the dark for days as they do.

My present method of treating cataract extractions is as follows: I try to make the manual of operation as smooth in every particular as I possibly can, using for asepsis instruments which I had previously immersed in boiling water. I use no antiseptic liquid on eye or face of patient, or on instruments. If the surface of the eye is in a healthy condition, I do not believe that pyogenic germs have collected on the conjunctiva, awaiting their opportunity to rush into the corneal wound as soon as formed; therefore I no longer go through the useless form of washing out the conjunctival sac. I see many surgeons put a few drops of a necessarily weak germicide solution on the eye, and immediately afterward proceed to make the corneal section. If the pyogenic germs were there no harm could come to them from this very transient water-bath. Bacteriologists are very much amused at the superstitious reverence of the modern surgeon who goes through this veriest form, and imagines that he has performed a most important duty. I have broken away from this useless habit of many, of trying to fight malignant bacteria which are not present by the momentary use of weak germicides which can do them no injury. I adhere rigidly to cleanliness for protection. Under the anæsthetic influence of a four per cent. solution of cocaine, I make a large corneal opening in senile cataracts, following the sclero-corneal circle for nearly one-third of its circumference. I find that this kind of opening, just where the clear cornea ends, facilitates the easy exit of the lens. Cutting across the clear cornea, as is often done in the iridectomy extraction, leaves a corneal shelf which obstructs the escape of the lens. After the corneal section I introduce the cystotome, and with it I thoroughly tear up the capsule over the pupillary area.

At one time I practised opening the capsule with the point of the cataract-knife as it traversed the aqueous chamber. This was a brilliant manœuvre with which I was much pleased. I found that in some cases it increased the difficulties of making a smooth operation. The lens would jump forward when the incision into the capsule released it. This movement would sometimes push the iris

over the edge of the knife. It was not always easy to dislodge it, or to avoid injury to the iris in completing the corneal section. In some cases I was forced to make an iridectomy when I had not so intended. I have, therefore, given up this step for the safer method of releasing the lens after the corneal incision had been perfected.

When the corneal wound is large enough, and is well placed at the uppermost circle of the clear cornea, the pressure of a shell-spoon upon the lower part of the eyeball tilts the upper edge of the lens forward and starts its delivery. The iris at first caps it, but by continued pressure the pupil expands, the iritic curtain gets out of the way, and the lens escapes through the corneal opening. There is usually some soft lens-matter left which can all be coaxed out by the careful pressure of the spoon. The pupil then regains its black color. If the speculum does not compress the eyeball, the iris will most frequently, without external aid, resume its proper place within the anterior chamber. Should it show a disposition to lag at the corneal wound, it is replaced in the eye-chamber by a few strokes of a spatula. When one becomes familiar by an every-day experience, he no longer wonders at the liberties which, under dexterous manipulation, can be safely taken with even this delicate, sensitive membrane. With the spatula the iris is not only pushed back under the cornea, but by sundry gentle strokes it can be smoothed out until the pupil assumes its normal size and appearance. The eye then looks as perfect as if no operation had been yet made, and fingers can be readily counted by the patient. This little trial assures them of the success of the operation, and gives the blind a foretaste of the good things to come.

The speculum is now removed and a few drops of a solution of eserine, three grains to an ounce of water, are put on the cornea. The object of these drops is to procure a decided and protracted contraction of the pupil. Both eyes are temporarily closed, and the eye from which the cataract had been removed is ready for its single and simple dressing. The adhesive strip is placed in position over the eyelids. If the secretions from the eye are not sufficient to make it stick it is moistened. When stroked by the shell-spoon it lies smoothly over the lid and cheek. Any excess of moisture is removed by the gentle pressure of a fold of a soft towel. In a few minutes the plaster dries. The cut eye is now shut in from all harm by having the lids permanently stretched out over it as a supporting mould. The patient can open the other eye, and without fear of injury can walk unaided from the operating-room to his own chamber.

Usually the excitement of the operation is followed by some lassitude, and patients prefer to lie on the bed. If they be of the more stolid kind, and prefer sitting or reclining on a couch, no objection is made to it. Operations are always performed by me after 2 P.M., when my morning's office work is finished. When supper-time comes, by the aid of the eye not covered, patients can partake of the evening meal without being fed. They are also allowed to make their own toilet at bed-time. As an aid in keeping the pupil contracted, and the iris away from the corneal wound, a few drops of the eserine solution are put at the inner canthus of the closed eye at bed-time. These find their way into the eye without displacing the adhesive strip. As they often cause brow ache and some pain in the eye, which might interfere with quiet sleep, a bromide or chloral mixture is given as a sleeping dose. The following morning a few of the eserine drops are again instilled, and with this drop ends all applications to the closed eye. If they desire it, patients get up at their usual rising hour, making their own toilet. This they do the day after the operation. The consecutive ones are spent sitting or reclining, seeing friends, if they desire it, and partaking of regular solid meals. The closed eye is inspected daily to note whether there has been much discharge of eye-secretions. Also to discover if there be any tendency to displacement of the adhesive strip. Often, after the second day, the plaster at its centre, along the lid border, seems to have been liberated from the lashes, forming a loose groove the whole length of the lid-split. Experience has taught me that this does not interfere with the most perfect final results.

Day by day I watch the appearance of the lids through the diaphanous dressing. The good light in the room permits this thorough examination. By the fifth day, should there have been no evidence of suppuration, I know that the corneal wound has healed, and I remove the adhesive dressing. Sometimes I wet it before removal, at other times I detach it from the eye dry, and then bathe the eye with warm water to get rid of all sticky matter, remnants of the adhesive substance from the plaster, and desiccated eye-secretions, the accumulation of five days' collection.

As a rule, when the eye is liberated in the light-room it is not much injected, nor does it run much water. From this time forth it is left uncovered and unprotected. The only treatment for the recently operated upon eye is the instillation of a few drops of a four-grain solution of the sulphate of atropia, for the purpose of breaking up any recent adhesions which may have formed between the iris and the lens capsule.

After from eight to ten days, when the eye no longer feels weak in the subdued light of the chamber, the window-shade is partly raised for the admission of more light. At the end of two weeks, patients can usually stand the full light of the open window, and can go about the house, provided they keep out of the strong sun-light. When dismissed from the hospital, they go away without having worn smoked glasses. They are warned to keep out of the sun, and to follow this simple rule as to exposure, *any light that is not uncomfortable to the eyes will not be injurious.* Those after cataract operation who find sun-light not painful, will not be injured by going into it. I find that a great many can go into the street with uncovered eyes, and without discomfort, two weeks after a cataract extraction, provided the whole treatment has been conducted in light-rooms with the one eye unprotected continuously exposed to the light.

In other words, my four years' experience with the treatment of cataract patients after operation, in many hundred cases shows very positively, that the weakness of eyes operated upon is not so much the result of the operation, but depends in a large measure upon the after-treatment to which they are subjected. Good, healthy eyes, kept in darkness for one week, cannot stand the light when exposed to it. Eyes that have never been in the dark exhibit no such irritation.

I am glad to know that this line of treatment, so revolutionary in its nature, which originated at the Presbyterian Eye, Ear, and Throat Charity Hospital, of Baltimore City, four years ago, has made itself felt throughout this country, and is being adopted by some of the specialists of Europe. I hope that the day is not far off when the harsh and useless treatment of bed confinement, in the dark, with the many bodily restraints which have been imposed upon cataract patients, will only be read about as evidences of what superstitions formerly pervaded the medical mind; also as illustrations of the wonderful docility of patients, who quietly submitted to a treatment against which they had such good reasons for rebelling.

A Dangerous Mineral Water.—William T. Jeffries and S. S. Jordan have filed a bill in equity in the United States Circuit Court against the Geneva Magnetic Water Company, of Washington, D. C., W. L. Cresson, of Norristown, and Julius Hugle and J. C. Ergood, of Washington, to recover moneys in an odd business transaction. They purchased rights for the sale of the magnetic water in certain counties, understanding that it contained no organic matter, and, as they claim, have since discovered that it is injurious.

An epidemic resembling yellow fever is raging at Belize, Honduras.

THE SUBSEQUENT HISTORY OF A CASE OF NEPHRECTOMY PERFORMED IN 1885.

By FRANCIS J. SHEPHERD, M.D.,
SURGEON TO THE MONTREAL GENERAL HOSPITAL.

In the RECORD for December 12, 1885, I reported a successful case of "Nephrectomy for Calculous Pyelitis," and wish now to place on record the after-history. The patient, a married woman aged twenty-four, was operated on by me in September, 1885, and the left kidney removed. At the time of the operation she was in a state of extreme emaciation, and hence the right kidney could be palpated with ease. It was apparently perfectly normal. The woman recovered quickly from the operation, and left the hospital at the end of a month with a small sinus at site of operation; this sinus healed rapidly some months later, after the discharge of the ligature which surrounded the vessels at the hilus. I saw her occasionally during the next two years, and she was evidently in robust health, her urine, which was frequently examined, was normal in quantity and appearance—within fourteen months of the operation she gave birth to a healthy child. I did not see her again until the fall of 1888, when she came to me complaining of "thick urine," and pain in the right lumbar region. She was admitted into the hospital, and her urine was found to contain a considerable quantity of pus. As she was at this time pregnant, although I advised operation, I did not press it upon her; she, however, declined any further operative interference. After a stay in hospital of a couple of weeks, she was discharged much improved. The pus had entirely disappeared from the urine and she had very little pain. No tumor could be detected at any time in the region of the right kidney. She again presented herself in the fall of 1889, and was admitted into hospital; her urine was loaded with pus, and she had latterly lost flesh. No kidney tumor could be made out. I strongly advised an exploratory operation, but she said as she had only one kidney she meant to keep it, and no persuasion would induce her to submit to operation of any kind. She left hospital in a week, somewhat improved, and I heard nothing of her until the end of the last week of April, 1890. Her husband came to me and said his wife, who had lately been confined (of her third child since the operation), was very poorly, and he thought she would not live long. I had her immediately brought to hospital and found her in so serious a condition that very careful examination was not attempted. For some time previously she had been passing daily only from eight to ten ounces of urine, loaded with pus. While in hospital, she passed during the last two days only four ounces of urine, her pulse was shabby, temperature subnormal, expression dull and stupid, was continually vomiting, and emitted a distinctly urinous odor. She died on May 4, 1890.

The following is taken from the report of autopsy held May 5th by Dr. W. G. Johnston, pathologist to the hospital:

"Body of a well-nourished, average-sized woman; subcutaneous fat abundant. . . A depressed cicatrix four inches long runs obliquely above the ilium in the left flank. . . In abdomen left kidney absent. Upper end of left ureter cannot be found. No adhesions or thickening in the left lumbar region; position of descending colon normal. Right kidney greatly enlarged, reaching from the crest of the ilium to the level of the seventh rib behind. Connective tissue and fat about the hilus much increased, and the aortic glands on right side at this level form a mass about the size of an egg. Kidney removed with pelvic organs. It forms a large fluctuating sac and contains over twelve ounces of thick muco-purulent urine. After opening, it weighed three hundred and fifty grammes. The upper half of the organ is transformed into a series of communicating sacs with granulating walls, the renal substance being reduced to a narrow zone one-eighth of an inch thick immediately beneath the capsule. The outlet for this half of the kidney is a narrow passage, admitting a No. 10 catheter running through the mass of fat and connective tissue at the hilus, to enter the pelvis proper of the kidney. This passage is blocked by a hard yellow-brown calculus, weighing ten grammes, which has a sharp conical point projecting down into the pelvis, and several branches with expanded ends extending into the dilated calyces. These ends are tipped with a rough white crystalline deposit. In the recesses of the sacculi are several small flat, rough calculi. The lower half of the kidney is far less altered. The pelvis and calyces are somewhat dilated and their mucosa thickened and rough, but the renal tissue is still an inch or more in thickness. There are no signs of calculi in this region. In the right ureter the mucosa is thickened, rough, and slaty-gray in color. The lumen is narrowed slightly and is filled with muco-pus. The entrance to the bladder is normal. The left ureter is shrunken, with a dense fibrous cord which can be traced as far up as the brim of the pelvis; no probe can be passed into it. Remaining organs healthy."

No doubt, had I operated on this patient when pus first began to appear in the urine, she might have lived for many years.

Progress of Medical Science.

The Innervation of the Stomach.—Two Russian observers have recently undertaken a series of elaborate experiments tending to elucidate the question of gastric innervation. A summary of their conclusions is given by the *London Medical Recorder*, as follows: 1. Normal movements of the stomach attain their maximum intensity during the gastric digestion, that is, when the organ is filled up with food masses. When the organ is empty, its movements not unfrequently cease altogether. 2. Given an active period, there are usually observed more or less strong rhythmic contractions of the pyloric portion of the organ, which occur at a fairly regular rate. The cardiac portion of the stomach may frequently remain at rest. It commences to perform periodic contractions only when the active period reaches its height, the contractions being more slow in comparison with the pyloric ones. They are not strictly synchronous with the latter; not unfrequently the movements of the cardia coincide with relaxation of the pylorus, and relaxation of the cardia with pyloric contractions. 3. At the height of the gastric action, there are observed, in addition, fairly strong general contractions of the gastric walls, running from the cardia toward the pylorus. They may sometimes occur even in such cases where the pyloric contractions are weak or absent altogether. 4. The pyloric movements are mainly dependent upon a peripheral or local nerve apparatus, since they may still occur even after both of the vagi and the cervical portion of the spinal cord have been divided. 5. They are, however, kept up and even excited by the agency of the vagi, since division of the latter alone may prove sufficient to cause a complete cessation, or at least a more or less considerable weakening, of the rhythmic movements. 6. On the other hand, destruction of certain portions of the central nervous system (*e.g.*, corpus quadrigeminum) similarly gives rise to a more or less prolonged stoppage of the pyloric contractions, which, however, after some while, regain their former intensity. 7. Stimulation of the vagi is invariably followed by very strong and accelerated rhythmic contractions of the pyloric region. Irritation of the right pneumogastric nerve always produces more pronounced effects than that of the left one. 8. Stimulation of the vagi never brings about a continuous constriction of the region; hence the supposition is justified that the nerves act on the region through stimulating a local peripheral nerve-apparatus. 9. As regards the cardia, strong electric and even mechanical stimulations of the vagi invariably produce a general contraction and constriction of the region, while a slight electric irritation gives rise

to a more or less marked dilatation of the part, the pylorus showing no changes at the time. (In other words, the authors confirm Openkhovsky's observations, according to which the vagi contain cardio-dilating fibres.) 10. When the stomach is empty, simulation of the vagi manifests a by far weaker influence on the organ than during the period of digestion. 11. An increased frequency of the pyloric rhythmic contractions is also observed on electric stimulation of the medulla oblongata. 12. Stimulation of the splanchnic nerves invariably completely arrests the pyloric movements (that is, the nerves contain special pyloro-inhibitory fibres, as Openkhovsky has shown), and at the same time induces a prolonged, though weak, single contraction of the organ, spreading from the cardia to the pylorus. 13. The same effects are also obtained from stimulating the spinal cord (its upper part), medulla oblongata, cerebral pedunculi, and anterior segment of the optic thalamus. The latter contains special centres inhibiting the pyloric movements. 14. Stimulation of the sigmoid gyrus (especially of its postero-external, but partly also of the anterior, portion) increases the pyloric contractions, the increase being often accompanied by a general constriction of the region, and followed by some decrease, or even temporary complete arrest of the movements. Now and then the same effects may be also obtained from stimulating the second gyrus, in the neighborhood of the sigmoid, and the third or fourth ones, between the upper end of the Sylvian fissure and postero-external division of the sigmoid gyrus. 15. Stimulation of the anterior part of the sigmoid gyrus, and sometimes of the outer end of the cruciate one, as well as of the posterior division of the sigmoid and adjacent part of the second primary gyrus, gives rise to a more or less prolonged retardation, or a complete inhibition of the pyloric contractions, accompanied by a general constriction of the region, and followed by increased movements. 16. Stimulation of the antero-external division of the sigmoid gyrus may occasionally give rise to contractions of the cardia without producing any changes about the pylorus; while irritation of the posterior end of the same gyrus may sometimes call forth contractions of the cardia, accompanied by increased pyloric movements. 17. As to a reflex influence of peripheral stimulation, it has usually an inhibitory character. With regard to the energy of the action, the peritoneal coat of the intestines and the peritoneum in general must be placed foremost. Even a slightest stimulation of the parts, such as a gentle stroking with a finger, very rapidly brings about a total and more or less prolonged arrest of all pyloric movements. Similarly, any cutaneous stimulation (pathic or thermic) gives rise to a temporary decrease or stoppage of all gastric contractions. The same holds true in regard to rhythmic contractions of the small bowel. 18. Stimulation of the central end of a divided vagus produces a temporary arrest of the pyloric rhythmic movements, accompanied by a general contraction of the gastric fundus, and a quite distinct dilatation of the cardia.

A New Theory on Labyrinthine Vertigo.—The influence of labyrinthine impressions on the maintenance of equilibrium of the body is now generally believed to have been demonstrated by the experiments of Flourens on the semicircular canals of pigeons, and to have been confirmed by the pathological researches of Menière. Indeed, all text-books contain the doctrine that destruction of these canals produces definite and special disturbances of equilibration, which render any proper co-ordination of locomotion impossible. Many years ago, however, Schiff protested against this theory, on the ground that section of the trunk of the auditory nerve did not cause any disturbance of equilibrium; while, more recently, Böttcher drew attention to the circumstance that in pigeons, on which these experiments have generally been made, the canals cannot, for anatomical reasons, be destroyed without injuring at the same time the cerebellum, thus giving a fruitful source of errors. The most serious objections to this theory have, however, now been raised by Professor Steiner, of Cologne, who has experimented on sharks caught in the Bay of Naples, in which class of fish the semicircular canals are particularly developed, and which are, therefore, most suitable for such experiments. The skeleton of sharks being cartilaginous, laying bare the semicircular canals is very easy; they are superficially situated beneath the skin, and separated from the brain by a considerable mass of cartilage, so that injury to the brain can be easily avoided. Steiner has found that when the membranous canals of sharks are laid bare and excised, and the wound is then closed and the fish put back into the water, not the slightest disturbance of locomotion ever follows. On the contrary, if after laying bare the labyrinth, the trunk of the auditory nerve, or the ossicles surrounding the same, are pulled and stretched, then there is invariably a disturbance produced in the form of rotatory or circular compulsory movements. If the latter operation be performed unilaterally, the direction which such movements take may in each case be predicted. Such traction of the nerve-trunk need only be slight in order to produce motor disturbance. The same result follows if no section of the canals be made, but one of them is pulled and stretched so that the ossicles change their position. These experiments show that in sharks the semicircular canals have, by themselves, nothing to do with equilibration, and that when motor disturbances follow, they are owing to traction and irritation of the origin of the auditory nerve in the medulla oblongata, and are the same as are produced by other similar irritation of that portion of the medulla. Steiner has shown that the same results, as in sharks, are obtained in frogs and lizards. In the higher vertebrates the anatomical relations of the parts concerned are so complicated that it has hitherto been found impossible to avoid sources of error in experimentation. Ewald's recent experiments on pigeons likewise seem to lead to similar conclusions. In one experiment he removed the six ampullæ from a pigeon, which survived the operation, and being very tame, followed him afterward, in a straight line, through several rooms. The same animal, however, when left to itself, was apt to walk in a circle, sometimes to the right, and sometimes to the left side. Why should the animal walk straight when following its master and in a circle when left to itself? Steiner explains this by assuming that compulsory movements are produced by the loss of cutaneous and muscular impressions consequent upon the operation, and that this loss may be neutralized in the higher animals by the influence of the eye and the intellect upon movements. The pigeon, therefore, overcomes the tendency to compulsory movements by fixing its attention upon the movements of its master. The vertigo of Menière's disease would, therefore, appear to have its source rather in lesions which affect the brain or its membranes, or cause alterations of pressure. That the semicircular canals have nothing to do with it is also shown by a case recorded by Politzer, in which there was congenital absence of all semicircular canals, yet no disturbances of equilibration had taken place during life; and another one of Lucae, in which the canals were found filled with blood-clots, and where there had been before death no corresponding symptoms showing that this condition had interfered with equilibration.—*The British Medical Journal.*

Frau Rosa Kerschbaumer, the wife of a physician, formerly assistant to Arlt, in Vienna, has obtained permission to practise medicine in Austria. This is said to be the first instance in which such a privilege has been granted to any woman in that benighted country. The lady was graduated in medicine in the university of Berne, and has for some time practised in company with her husband in Salzburg, her work, however, being done secretly, her husband being responsible for all that she did as a physician.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, August 2, 1890.

THE REMOTE RESULTS OF REMOVAL OF THE TUBES AND OVARIES.

GYNECOLOGISTS are showing a praiseworthy endeavor to find out what are the remote results of removing ovaries and tubes, and what is the final condition of the patient who has been operated upon. It was at first thought a sufficient justification of laparotomy if some diseased structure was found and removed. This was taking a purely surgical view of the case and not that of a patient, or even of a disinterested observer. If the patient is no better, or even worse, after a diseased structure is removed, she may reasonably assert that the operation was practically and personally a failure.

We have published some of the discussion which took place upon this subject before the Section on Obstetrics of the Academy of Medicine last April. A full report of one of the papers then read—that by Dr. Howard A. Kelly—has just been sent us (*Johns Hopkins Hospital Bulletin*). It gives a very fair idea of the position which the gynecologist still holds upon this matter, and of the intellectual limitations which the practice of oöphorectomy seems invariably to impose.

Dr. Kelly bases his remarks upon 96 cases of tubal and ovarian disease for which laparotomy was done between the years 1886 and 1888. Among these are, first, 25 cases of tubo-ovarian abscess. Some of the unpleasant sequelæ are cited as follows: Two cases had uterine hemorrhages; 3 cases had fecal fistula, and one of these a urinary fistula also; 2 cases had encysted masses left near the womb; 2 cases had hernia; 2 cases continued to have the same headaches as before.

Aside from these, Dr. Kelly says that the patients were all cured—that is to say, 13 out of the 25; and he adds that he does not know of a single case "not improved."

Out of 33 cases of salpingitis and ovaritis, whose condition he knows, 13 were cured and 17 improved. Of the remaining 3, 1 died from causes unknown, 1 still has distressing dysuria, 1 is not improved.

Out of 25 cases of lesser disease of the ovaries and tubes 8 were cured, 7 very much improved, 13 improved, 5 slightly improved, 2 not much better. The arithmetical process by which 8, 7, 13, 5, and 2, are made to amount to 25 is unique, but we will lay the blame on the printer. It seems, however, that out of the total 35 only 8 are cured. Among all the three classes of cases, therefore, it seems that the cures were 32, or about one-third. Of the remainder there was a large proportion suffering from various delicately differentiated degrees of improvement.

The writer admits no positively bad results. His standard of what is cure and what is improvement is largely a surgical one, based upon a consideration of the local condition. There is little note made of the general condition of health, and capacity for work and enjoyment; the marked and peculiar influence which a removal of the ovaries has upon neurotic women; its alleged tendency in some cases to cause insanity is not referred to, and probably was not observed by the writer.

On the whole, however, Dr. Kelly takes a reasonable view of the indications and effects of the operation, and he candidly admits that in estimating its results one should consider not only the possible mortality, but also the immediate accidents, such as hernia, fistula, hemorrhage, etc. He urges that, like an amputation, its results must be often justified in that it saves from worse suffering and possibly from death.

From a practical stand-point, he adds, in conclusion, there are two classes of cases in which the operation is called for. They are the necessary and the elective.

"Salpingo-oöphorectomy performed for fibroid tumors choking the pelvis and pressing on rectum and ureters, and for pyosalpinx, is an operation necessary to save life. Salpingo-oöphorectomy performed for chronically inflamed ovaries and tubes, or for small ovarian cysts or blood cysts of the ovaries, is a purely elective operation.

"The results of salpingo-oöphorectomy should be divided into two classes, connected by the bridge of time—first, those results which at once follow in the train of the operation, and secondly, those symptoms which persist or crop out after months or years—the immediate and the remote results.

"In estimating the results we must never lose sight of the fact that the suffering which immediately follows an operation, even though the patient be completely cured by it, is to be weighed against the operation along with its mortality, the accidents of fecal fistulæ, injured ureters, fistulous drainage tracks, hernia, ileus, and all pain from adhesions and other sequelæ. Among the remoter results are uterine hemorrhages, hernia, late discharge of the ligatures, and I might include here persistence of pain which it had been expected the operation would relieve."

PRECAUTIONS IN PRESCRIBING CALOMEL.

IN times not yet long past it was the rule to caution all to whom a dose of calomel had been given to abstain for a while from salty and acid food; the reason for this precaution being, of course, the belief that calomel in the presence of strong acids or of chloride of sodium would be changed to corrosive sublimate. We doubt whether this rule is followed so strictly at the present time as it was a quarter of a century ago—in fact we are positive that it is not—and yet instances of poisoning from small doses of the mild chloride of mercury, in which the symptoms would render it probable that the conversion into the bichloride had taken place, are certainly exceedingly rare. It would seem, therefore, as if the precautions taken by a former generation were needless, and clinical experience is strengthened by theory when we consider that if this change ever took place in the body it should

always, since the contents of the stomach are usually acid, and ought to convert at least a portion of the ingested calomel into bichloride of mercury. A correspondent of the *Revue Générale de Clinique et de Thérapeutique* makes a somewhat similar suggestion in a recent issue of that journal, and asks if this is not, after all, a therapeutic superstition. In his reply the accomplished editor of the journal, Dr. Henri Huchard, recalls the chemical properties of calomel. It is, first, insoluble in water. Alkalies transform it into metallic mercury and the bichloride. Concentrated hydrochloric acid, with the aid of heat, transforms it into the bichloride; so also in a measure do alkaline chlorides and alkaline iodides at ordinary temperatures. Finally, hydrocyanic acid in the presence of calomel converts it into metallic mercury and the bichloride. Of course it does not follow that the same reactions will occur in the stomach, and it is not always safe to argue from the laboratory to the human organism. It is true that the stomach normally contains acids which, in a test-tube, would convert the chloride into the bichloride, and that many persons partake freely of salty and acid foods after a dose of calomel, and suffer no evil consequences therefrom. Nevertheless, there is no harm in being prudent, especially when it is so easy, as in this case; and we think, therefore, that Dr. Huchard's conclusions are well worthy of being observed. These are as follows:

1. All the alkaline chlorides are incompatible with calomel, and we should therefore forbid all salt food after a dose of calomel has been given.

2. In certain diseases calomel is prescribed in fractional doses at the same time that the patient is taking iodide of potassium; now, as this salt causes the conversion of the chloride into the bichloride, it is the wiser course not to have the two drugs together in the stomach.

3. Calomel should never be prescribed in the same mixture with preparations containing hydrocyanic acid, such as cherry-laurel water and the like.

4. Some forbid all acid drinks after a dose of calomel has been taken; but as acids convert this salt into the bichloride only when they are in concentrated hot solutions, this precaution seems hardly worth observing.

THE ANNUAL REPORT OF THE NEW YORK CITY BOARD OF HEALTH.

For the first time in many years the New York City Board of Health has published an annual report. The reappearance of these volumes is the more satisfactory for the reason that the previous publications of the Board were most valuable statistical and scientifical documents. The present report for the year 1889 is short and contains little but statistical tables; nevertheless there is much in it of interest.

We learn that the number of inspections during 1889, made by the Sanitary and Police Inspectors, was 363,875. There were 44,511 milk inspections made, and 6,284 quarts of adulterated milk destroyed. Nearly a million and a half pounds of fruit and food were condemned and seized—a most striking comment on the necessity of such work, and of the moral status of fruit and food dealers.

At the Willard Parker Hospital for Contagious Diseases 705 persons were treated during the year.

The death-rate for 1889 was 25.13 per 1,000, not including still-births.

The decrease in deaths in 1889 over the annual average of the past ten years was 2,247.

There were reported, 122 deaths from surgical operations, 33 being from laparotomy.

The statistics of suicides are given fully, and carefully analyzed.

We trust that the Board may in future be able to add scientific papers to its statistical work.

POLYORROMENITIS, OR "CONCATO'S DISEASE."

We had feared that the flowers which bloom in the spring would have come and gone, dissipating their fragrance and disarticulating their petals beneath the arid sun of July without the announcement of a new disease. Our fears were groundless, however, thanks to the rich pathological resources of Italy and the keen observations of Dr. Concato, of Genoa. In the *Rivista clinica e therapeutica*, of February, 1890, this author describes a series of cases, presenting, as he thinks, new and peculiar symptoms. The patients suffer from a progressive and malignant inflammation of various serous membranes, the disease finally assuming the aspect of a severe type of pneumonia. In one case, for example, there was a peritonitis, double pleuritis, and beginning pericarditis. Death occurred on the thirteenth day. The autopsy showed fresh adhesions between the pleural surfaces, with fibrinous exudates in the form of pseudo-membranes above, and of a solid precipated mass at the base. In the other cases, of which there were five, there was also found fibrinous exudates in the pleural cavity, with evidences, less marked, of peritonitis and pericarditis. The peculiarity of the cases was the disproportion between the severity of the symptoms and the post-mortem findings which were mainly those of a dry pleurisy. Aside from absence of sputum the cases resembled, clinically, those of pneumonia.

A bacteriological study of the cases by Dr. Bozzolo has given as yet negative results.

In justice to Dr. Concato it should be said that he did not propose the name of "Concato's Disease," but suggests the more scientific one of "polyorromenitis," which is interpreted as meaning a "phthisis of "serous membranes." Dr. Galvani Ercoles, however, patriotically prefers to call this Italian trouble "Concato's Disease."

There will always be enough doctors to supply all new diseases with distinctive proper names; but we sometimes fear that this richness in onymic material is being drawn upon too freely. It takes a little practice to say "polyorromenitis" without stumbling, but with proper self-restraint and considerable patience it can be done; and if the esteemed Signor Concato has really found a new disease, we should recommend to systematic writers and teachers practice with the Greek derivative rather than a timorous yielding to the eulaliac ease of pronouncing the perhaps immortal name of Concato.

CHLOROFORM ANÆSTHESIA.

The Hyderabad Chloroform Commission has just made its second report, completing the account of its work. The Glasgow Chloroform Committee has published a

critical report taking issue with the results of the Hyderabad Commission. Surgeon-Major Lawrie has written an article summarizing the work of the Hyderabad Commission, and replying to the criticisms of the Glasgow Committee. It will thus be seen that the question of chloroform anæsthesia remains yet unsettled. As it is to be discussed at the coming International Congress, doubtless some interesting facts will be brought out. Meanwhile, Dr. Marcel Baudoin, of Paris, has just published a description of what he terms a new (and safe) method of administering chloroform, by using small and continuous doses.

In a recent discussion at the Academy of Medicine on the accidents due to anæsthetics, Dr. Laborde endeavored to demonstrate experimentally, at the tribune of the Academy, that the beats of the heart were immediately arrested for two or three seconds when the cork of a bottle containing chloroform was placed under the nostrils. This phenomenon is not produced with the bichloride of methylene, but it is produced with ether, although less markedly than with chloroform. Professor Verneuil thought that laboratory experiments could not in any way throw light on the causes of death by chloroform, in man the most frequent being syncope.

News of the Week.

The Retirement of Surgeon-General John Moore, U. S. A.—During the present month Surgeon-General John Moore will reach the age limit of retirement and his successor will be appointed. Surgeon-General Moore has filled a career of over thirty-seven years in the army, having been appointed Assistant Surgeon from his native State, Indiana, in 1853. He passed regularly through the grades, served with distinction during the war, receiving the brevet of Lieutenant-Colonel for gallant and meritorious services during the Atlanta campaign, and that of Colonel for faithful and meritorious services during the war, and became the head of the Medical Department on November 18, 1886. At that time he had hardly been considered one of the leading aspirants in the contest for the place of Surgeon-General, but his professional ability and army record were indisputable, and he was passed over the heads of some seniors. The ranking officer in the Medical Department is Colonel Jedediah H. Baxter, Chief Medical Purveyor. He began his military service in June, 1861, as surgeon of the Twelfth Massachusetts Infantry, and received the brevets of Lieutenant-Colonel, and Colonel of Volunteers, and of Colonel in the regular army, for faithful and meritorious services in the war. After its close he was appointed to the regular service from Vermont, his native State, with the high rank of Lieutenant-Colonel and Assistant Medical Purveyor, and with this start he achieved his present rank of Colonel and Chief Medical Purveyor sixteen years ago. Since then he has seen juniors promoted over him to the head of the department; but this fact was no reflection on his ability, as the officers thus preferred had served in the army much longer than he. In the present instance, also, the five other officers in the department who have the same rank of Colonel have been a very long time in the service. Surgeon Charles Sutherland entered it in 1852, from Pennsylvania, and reached his present rank in 1876. Assistant Surgeon-General Charles Page entered it in 1851, from Virginia, and reached his present grade in 1887. Surgeon Basil Norris, who is generally regarded as one of the chief competitors of Colonel Baxter, received his commission as Assistant Surgeon in 1852, being an appointee from Maryland, and reached the rank of Colonel in 1888. The two remaining surgeons, Colonel Edward P. Vollum, and Colonel Joseph R. Smith, were appointed in 1853 and 1854 respectively, both from New York, and reached their present grade last year. All of these officers received brevets for war service. Surgeons Sutherland, Norris, and Smith those of Lieutenant-Colonel and Colonel, and Assistant Surgeon-General Page and Surgeon Vollum, that of Lieutenant-Colonel. The reports of Colonel Smith were for superior ability and excellent management of the affairs of his department and meritorious services and devotion to the sick during the prevalence of the cholera at Little Rock. As the entrances of the first four of these officers into the service were all within less than two years of each other, so their retirements come close together, that of Colonel Vollum next year, that of Colonel Norris the year after, and those of Colonels Sutherland and Page in 1893. Colonel Smith does not retire until 1895, and Colonel Baxter not until 1901. Of course, the President is not compelled to select the Surgeon-General from among the Colonels. He might even go among the Majors, or lower if he chose.

Professor Jolly, of Strassburg, has been appointed to the Chair of Mental and Nervous Diseases in the University of Berlin, which has been vacant since the death of Professor Westphal.

Professor E. Ray Lankester has been elected Deputy Linacre Professor of Human and Comparative Anatomy at Oxford University.

Medical Education of Women.—A scholarship of the value of £100, tenable at the Edinburgh School of Medicine for Women, has been offered by the National Association, founded by the Marchioness of Dufferin, and is to be open to ladies desiring to fit themselves for the practice of medicine in India in connection with the National Association.

The Liston Victoria Jubilee Prize has been awarded to Robert Lawson Tait. It was open to all fellows and licentiates of the Royal College of Surgeons of Edinburgh, for the greatest benefit done to practical surgery by any of these during the triennial period ending June 20, 1890.

The International Congress of Hygiene.—The Prince of Wales has accepted the post of President of the International Congress of Hygiene, which will be held in London in 1891. He has fixed August 10th as the probable date at which he will open the Congress.

The Congress of the French Association for the Advancement of the Sciences will be held at Limoges from August 7th to 14th. Undoubtedly it will attract many French physicians that might otherwise have attended the International Congress at Berlin. A special feature in the proceedings will be a discussion on influenza, which the organizing committee is striving to make as thorough as possible.

The Enlargement of the New York Cancer Hospital.—The male pavilion of the New York Cancer Hospital (106th Street and Eighth Avenue, New York) will soon be completed and ready for occupancy. Heretofore the institution has restricted its benefits to females, accommodating seventy patients. The male pavilion, upon the same plan, will have an equal capacity, making that for the entire hospital one hundred and forty.

Since the construction of the new buildings was begun, several additions have been made to the hospital fund in the form of contributions. Among these were $5,000 from Mrs. C. P. Huntington, $5,000 from an anonymous friend through Dr. Cleveland, and $4,000 from Mrs. Susan M. Edson. The managers say, however, that the annual expenses are still $25,000 in excess of the income from all sources, and that contributions to the endowment fund will be necessary to make the work of the institution as effective as it should be. The charge for a bed in the wards is $7 a week, and for a private room $20 a week, but free patients are received and treated with as much care as those who pay. The actual cost of boarding and treating a ward patient is $350 a year, showing that there is no surplus from even those who can afford to pay the charges. This is the only hospital in the world devoted exclusively to the treatment of cancer cases, and deserves the support not only of the wealthy laymen, but the hearty endorsement of the profession. Patients are admitted from every part of the country on a physician's certificate of the nature of the disease.

Crowds of Doctors Everywhere.—Those who are interested in reading the names of passengers across the Atlantic, must have been struck by the excessive number of medical men on the lists of our ocean steamers. But in spite of this exodus, all our inland watering-places, all our mountain and sea-shore hotels, all summer resorts where more than ten families may be expected to flock together, have retained their undue proportion of physicians. It will soon happen that the medical fraternity will have only doctors and their families for patients. Professional charity will then have reached its high-water mark, and "doctor's bills" will be but a memory of the past.

Dr. Brieger, whose name is favorably known for his original work in bacteriology and general pathology, has been appointed Extraordinary Professor in the University of Berlin.

The Oldest Living Hospital Graduate.—As far as can be learned, the oldest living ex-hospital interne is the venerable Dr. Henry I. Bowditch, of Boston, who served on the house staff of the Massachusetts General Hospital in 1829. Dr. John L. Vandervoort, who has served as librarian at the New York Hospital for more than two-score years, was Junior Walker in that institution in 1831, and house physician in 1832 and 1833.

A French Physician sent to Germany to Study the Nose.—Dr. E. J. Moure, Lecturer on Laryngology at the Bordeaux Faculty of Medicine, has been commissioned by the French Government to study the arrangements for treating diseases of the throat, nose, and ear, and the provisions for teaching these specialties in Germany.

Professor Mikulicz has been called to the Chair of Surgery at the University of Breslau.

We are a Pretty Big Nation.—Approximate computations place the total population of the United States between 64,500,000 and 65,500,000 inhabitants.

The First Annual Congress of Psychological Medicine, which begins at Rouen on August 4th, will probably last four days. In addition to the communications which have been promised, the lunatic asylums of the Department of Seine Inférieure will be visited, and the two following questions will be discussed: 1. The Relations of General Paralysis and Syphilis. 2. The Proposed Reform of the Law of June 30, 1838.

Typhoid Fever at Milan.—Typhoid fever, diphtheria, and scarlatina have appeared in force over a great part of Milan, but especially in the quarter of the Porta di Genova. The health of the city is more than usually compromised. The water-supply is clearly to blame for this state of things, so discreditable to an industrial centre boasting the wealth and enlightenment of the Lombard capital. Wells sunk in the subsoil of the level plain on which it stands become easily impregnated with organic impurities, and make the drinking-water supplied from them to the hotels and *pensions* a ready source of disease and death. Milan, on the admission of her best sanitary engineers, can avert this danger by bringing her water-supply from the neighboring Alps by means of an aqueduct; and no satisfactory reason has yet been put forth for the postponement of so urgent an undertaking.

According to information which appears in another column, the city of Birmingham, Ala., might with advantage follow the advice given to Milan, in respect to sanitation and a proper supervision of her water-supply.

Hæmaturia and Garden Rhubarb.—A correspondent of *The Lancet* writes concerning a little "local epidemic" of kidney complaints. The majority of the patients had frequent micturition, several of them had hæmaturia, and all of them complained more or less of pain in the loins and of general indisposition. After some consideration it was found that they were eating delicious rhubarb tarts; indeed, several of the patients were indulging in them morning, noon, and night, and, in addition, they were drinking hard water rather copiously, as the weather was very hot. With these facts before him, the production of the epidemic was quite easy of explanation. The rhubarb supplied plenty of oxalic acid, and the hard water an abundance of lime; so countless minute calculi of oxalate of lime, easily seen in the urine with a magnifying glass, were manufactured in the system, and caused the symptoms complained of. From that day to this he has been on the lookout for kidney complaints in the spring and summer, and he frequently finds them and the cause of them. Gooseberries, when eaten freely, often produce symptoms similar to rhubarb, and so do acid unripe apples. In the production of these kidney affections lime sees to be an almost necessary ingredient.

Sir Morell Mackenzie, who it was expected would lecture in this country next October under the management of J. B. Pond, has sent word that his health will prevent him carrying out his engagement. He offers to come next year, however.

Society Reports.

THE NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 15, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

DR. LOUIS L. SEAMAN read a paper on "The Auscultatory Percussor" (see p. 64).

Spinal Surgery: A Report of Eight Cases.[1]—DR. ROBERT ABBÉ read a paper on this subject (see p. 87).

The patients in Cases V. and VII. were presented to the Academy.

DR. JOHN A. WYETH said that he had been struck with one feature of Dr. Abbe's cases, and especially those of traumatic origin, and that was the location of the injury to the spinal cord. In three traumatic cases the injury was in the vicinity of the eleventh dorsal vertebra, and this was also the case in two cases of his own; in one of them the trouble being at the eleventh dorsal vertebra, and the other at the twelfth. This was the portion of the spinal column which was most exposed to direct violence.

In the surgery of the spine he thought it would be well to divide the cases into several categories, and in his own mind he had formulated the following classification. Under the first heading he would place all cases of compression by bone, dividing them into two classes—first, those in which the compression was gradual, as in Pott's disease, and second, those in which there was compression and more or less destruction of the cord from sudden violence. Under the second heading he would place the cases of compression by tumors, dividing the latter into intradural and extradural tumors. In our present stage of knowledge he thought the cases where there was destruction of a portion of the cord were practically incurable, and this seemed likely to continue to be the case unless it should become possible to remove the body of a vertebra, and thus enable the surgeon to bring together the healthy portions of the cord situated above and below the part that was destroyed. This was an operation, however, which he would not care to undertake or to witness at the present time. As to tumors of the cord, those which were intradural were naturally more dangerous than those which were outside the dura, and in them the chance of recovery was less assured.

Dr. Wyeth then gave the histories of the two cases of fracture of the spine in which he himself had operated. In the first the fracture was situated at the twelfth dorsal vertebra, and there was complete recovery after the operation, notwithstanding the fact that the patient had been paralyzed for more than two years previously. In the second case the fracture was at the eleventh dorsal vertebra. At the seat of trouble the cord was found to be somewhat flattened, and there was considerable inflammatory lymph binding the cord very firmly to the dura. The adhesions behind the cord and dura were broken up by the finger. The injury had been received on September 16th last, and the operation was performed seventeen days ago. As a result of the operation sensation was immediately recovered down the entire lower extremities. Motion, also, was restored to the two big toes, but up to the present time the paralysis of motion had been relieved only to this extent. From what he had seen and read he could not doubt but that in many cases of compression, and especially those of traumatic origin, the patients could be restored to usefulness by means of operative interference.

DR. A. P. GERSTER said that an obstacle to the restoration of function in cases in which the spinal marrow was divided was the area of cicatricial tissue lying between the separated ends. He did not know whether or not experiments had been made on animals to find out whether, if the divided ends could be united, the functions would reappear; but, from experience met with in the case of divided nerves it seemed probable that it would. The matter was certainly worthy of investigation, and even desperate operative measures, he thought, were justifiable in such cases on account of their hopeless character. The technical difficulties of bringing together the divided ends of the cord could no doubt be overcome by practising the procedure on the cadaver. Furthermore, he did not see why the extreme measure referred to by Dr. Wyeth, of removing an entire vertebra, should not be resorted to under certain conditions. If he thought such an operation would enable him to restore the functions of the lower portion of the cord he would not hesitate to perform it, provided he should first have demonstrated its practicability by experiment. He would not think of undertaking it, however, until it had been shown upon animals that such a restoration of function was possible by the uniting of the several ends of the cord.

His personal experience in spinal surgery had not been extensive. Eleven years ago he had had at the German Hospital a case of new growth involving five of the vertebræ and causing paraplegia. The patient was admitted with a large tumor occupying the median line of the back, and he attempted the removal of the growth. It had originally, no doubt, been sarcomatous in character, and it had become largely infiltrating. He succeeded in removing the greater portion of it, and in doing this he had to scrape some of the mass from the dura. The latter had become softened, and it gave way at some points, allowing a considerable amount of cerebro-spinal fluid to escape. The immediate results of the operation were very satisfactory, sensation and motion in the paralyzed extremities both becoming much improved. Later, however, a relapse occurred, and the case terminated fatally.

A second case of his had a more fortunate result. It was one of vertebral tuberculosis of long standing, and the patient was a lad fourteen years of age. He had been admitted to Mount Sinai Hospital, and was under treatment since December, 1888, by plaster jacket with fenestra. In May, 1889, rapidly increasing paraplegia set in; commencing with loss of sensation and gradual waning of muscular power, so that within ten days complete paralysis was established. The rectal and vesical functions also became sluggish, requiring local measures for evacuation. On May 24th it was decided to explore the local state of affairs. The laminæ of the sixth and seventh dorsal vertebræ were removed by the chisel and mallet, and an extensive extra and subdural abscess was evacuated. Widespread confluent caseation of the soft tissues adjoining the intravertebral focus was found, in which caseous masses were imbedded in the roots of the motory or sensory nerves on both sides. The transverse processes of the fifth, sixth, seventh, and eighth thoracic vertebræ on the right, and those of the fifth, sixth, and seventh on the left, were found carious and partially necrosed, and the pertinent costo-vertebral joints destroyed. Consequently, these transverse processes were removed, as well as the heads of the respective ribs. The bodies of the sixth and seventh vertebræ were also much disintegrated, and their broken-down constituents were gouged away. The operation was well borne, and the large wound, which was packed with iodoform gauze, filled up rapidly and healed kindly, but no immediate improvement of the paralytic symptoms was observed. In the following August, however, the power and functions of the lower extremities were re-established, and this restoration took place in the short space of about ten days. By massage, faradism, and active movements the muscular power was so enhanced that the patient was able to support himself without external aid by October; while in December he was discharged with a slightly discharging sinus of the dorsum and apparently not more of a kyphos than he exhibited on admission.

DR. MORRIS said that experiments such as Dr. Gerster had referred to had been made on animals, but no very satisfactory results had as yet been obtained. The testimony showed that ascending and descending degenera-

[1] In charge of the Section on Surgery.

tion followed division of the cord, but it seemed to him that if, in case of its accidental severance, we could get the two ends of the cord together within a few hours we might hope for a restoration of function. The ends of the cord it was found after division did not retract very far, for the reason that the spinal nerves are given off at short intervals. It seemed probable that we would not have to remove a vertebra; and if this were to be attempted the most troublesome feature that would be encountered would be the crowding together of the spinal nerves. The danger of such a procedure need scarcely be taken into consideration, since the cases in which it might be thought of were of such a very desperate character.

He had at present under his care a boy, eleven years of age, who had been shot with a 22-calibre bullet in the line of the tenth dorsal vertebra, with the effect of producing paralysis of the lower portion of the body. He first saw the patient seven days after the injury, and he immediately cut down and opened the spinal canal. He removed an articular process which was found pressing upon the cord, and this was at once followed by improvement in both sensation and motion. In the right leg the recovery was now almost complete, but in the left the paralysis still continued to a very considerable extent. He was not able to find the bullet, which had no doubt lodged somewhere in the spinal cord.

Dr. Reginald H. Sayre urged immediate operative interference in recent traumatic cases. There were many cases of paraplegia resulting from Pott's disease, he said, in which a cure could be effected without resorting to operation. Cases in adults, however, which did not yield to systematic treatment directed to the Pott's disease within twelve months he thought might very properly be looked upon as suitable cases for operative interference.

Dr. B. Sachs said that up to the present time the results that had been obtained in spinal surgery were not especially gratifying. As a neurologist he thought that surgeons should select their cases for operation with more care than they had hitherto done. With Dr. Sayre, he believed that recent cases presented the best opportunities for operative interference. If the cord were separated into two parts, however, there was, in his opinion, not much hope of accomplishing anything. In cases in which the symptoms had become less marked than they had been at first, as was the case in one of Dr. Wyeth's cases, in which he was the medical consultant, there was a much better chance for success for operation, since the amelioration indicated that there had not been a total destruction of tissue. Dr. Abbé, he thought, was deserving of great credit for demonstrating that such good results could be obtained in tuberculous cases as were presented in the patient which had been exhibited. Formerly the opinion had been held that no operation ought to be undertaken in tuberculous cases.

He had been a little puzzled to understand why, in some of the cases reported by surgeons, so many laminæ had been removed. As a rule, he believed this was entirely unnecessary, since, if proper care were observed in diagnosis, the lesion could ordinarily be located with very great accuracy. Operations on the spine for the relief of neuralgic trouble seemed to him to be the most objectionable in the whole range of spinal surgery. Judging from the results obtained by Dr. Abbé in the two cases he had reported, no improvement whatever was to be expected from them; and, in any event, this was certainly a very radical method of attacking neuralgias. It was to be remembered that pain was not the only symptom that was likely to result from trouble involving the posterior spinal roots. Vasomotor disturbances especially, as well as neuralgia, would be apt to follow. As these two cases showed, unless we had good reason to infer the existence of organic disease of the posterior spinal roots, it would not be well to interfere in this way.

Dr. Abbé closed the discussion in regard to neuralgia. He said that no sane man would think of operating in ordinary cases. In the two patients upon whom he had operated, however, the trouble was so exceedingly aggravated, and so utterly unamenable to all other remediable measures, that the procedure seemed to him entirely justifiable as a last resort. That such operations might be attended with success was shown by a case in England, reported by Bennett. It was one of sciatic neuralgia, and though the patient unfortunately died of apoplexy twelve days after the operation, from the time of the latter there was complete freedom from the pain, which before had been so constant and so excruciating. In his own two cases he wished it to be distinctly understood that the character of the pain experienced was entirely altered after the operation. In both patients he believed there had been a hysterical element, although he had tried to eliminate this as far as possible. Both were also still taking morphia largely, and such cases could not be depended on. Moreover, it so happened that both of these men were trying to get pensions on the ground of their disability from the pain. While, therefore, he really believed them to be genuine sufferers, he was not at all sure about the matter.

In fractures of the spine he believed the operation should very rarely be done. He was not positive, however, that restoration of innervation to the lower segment of the cord could not be successfully accomplished after further experiments upon animals had been carried on. But to bring the divided parts of the cord directly together again he thought could only be accomplished by removing one of the vertebræ, and this he believed could not be done without destroying the patient's life.

Dr. Thomas M. Manley briefly referred to a number of cases of fracture of the spine which he had met with in the surgical service of the Harlem Hospital.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, March 26, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Etiology of Cancer of the Cervix Uteri.—Dr. C. N. Dowd presented a specimen taken from a cauliflower-like growth on the cervix uteri of a patient, twenty-two years of age, who had given birth to a child two years before. The cervix was much enlarged and lacerated bilaterally. The cauliflower-like excrescences were abundant, and many of them were so brittle that they could be pulled off by the forceps. The surface bled freely on irritation. In making a diagnosis the following points were to be considered: The appearance of the growth was that of a carcinoma, but it had not involved the vaginal walls; there was none of that peculiarly offensive sanious discharge which is so characteristic of cancer of the uterus; the patient was but twenty-two years of age, and did not present a cancerous cachexia. Hence the probabilities were decidedly against cancer, yet the possibility of a malignant new-growth not far advanced, which had started in granulation-tissue was to be considered, and microscopical examination was necessary to decide the question. This was made on a section cut from the granulating surface, and on one of the excrescences which was pulled away. At the edge of the section there were round and elongated cells, packed closely together, which in spots looked very much like sarcomatous tissue. There were also a few polynuclear cells resembling giant cells. There were ill-defined blood-vessels and a moderate amount of connective tissue; at a distance from the surface this connective tissue was more abundant. One could not assert positively from the microscopical examination whether this was granular tissue taking on the type of sarcoma, or not.

The relation between granulating lacerated cervix and malignant growth is one of very great importance from a practical standpoint. On the one hand unnecessary operations are performed, and on the other cases of cancer are allowed to develop until no operation can be of any

use. The concensus of opinion certainly is that there is a predisposition to malignant growth in a lacerated and granulating cervix. Dr. Dowd presented some statistics, taken from the United States Census Report, showing that of all deaths among women two and a half per cent. were from cancer, and that in one-third of all cases of cancer the disease was situated in the uterus. The statistical tables also showed that parturition had a decided effect—direct or indirect—upon the development of cancer of the uterus.

Dr. H. J. Boldt thought that the specimen under the microscope closely resembled carcinoma; and the clinical history, which was often of still greater importance in these cases, tended to confirm the indications of malignant disease.

Cancer of the Liver.—Dr. Hodenpyl presented a specimen of cancer of the liver removed from a woman about fifty years of age, who had entered St. Francis' Hospital suffering from an abdominal tumor on the right side. An exploratory incision was made, but further operation was inadmissible. The autopsy showed a large cancerous growth in the lower portion of the right lobe of the liver. The gall-bladder was filled with calculi, and the fundus appeared normal in thickness; but the other extremity was completely ulcerated away. The intestines, stomach, and peritoneum were firmly adherent to the under surface of the right lobe of the liver, and the large intestine opened directly into the large cavity seen in the specimen.

Primary Cancer of the Uterus.—Dr. J. H. Linsley presented a report of a case of carcinoma, and exhibited under the microscope sections of the growth. The specimens were removed from the body of a married woman, forty-five years of age, who had had one child after an easy labor, and several miscarriages, always between the second and fourth months, but these never affected her health, which was always excellent. About two months ago she noticed the abdomen was growing larger, and she had occasional pain. At the same time she began to lose appetite and strength. Latterly she had had swelling of the left leg and considerable dyspnœa. She was admitted to St. Luke's Hospital where laparotomy was performed by Dr. Abbé. The operation was performed under chloroform, as the woman was too weak to take ether. An incision was made in the median line down to the peritoneum. This was picked up with forceps and nicked, and Chamberlain's tube being introduced, three-fourths of a large bucketful of yellow, glairy, albuminous fluid was withdrawn, much being left in the abdomen. Examination by the finger showed cysts of various sizes scattered here and there, and a papillomatous growth was felt in the anterior abdominal wall, involving part of the bladder. The peritoneum was covered with small tubercles, one of which was cut off for examination. The wound was then closed, and an antiseptic dressing applied. The patient complained of no pain until toward the end of the operation. After this operation the condition remained about the same, the patient gradually grew weaker, and died three months later.

Autopsy.—The peritoneum was thickened and roughened everywhere, and adhesions were very numerous. There was one large mass, consisting of omentum and folds of intestine, adherent to the peritoneum directly beneath the umbilicus. The intestines were bound down everywhere by firm adhesions, and on their surface were many small, hard, whitish nodules. The right lobe of the liver was deeply scarred, its capsule was thickened, and on its surface were several hard nodules about the size of a pea. The pancreas appeared to be studded with whitish nodule or deposits of new formation. All the pelvic organs were so bound down that they were hardly distinguishable. The surface of the peritoneum was covered everywhere with new formation of the same appearance as that already noted. The mucous membrane of the rectum was normal in appearance, except at one point over the brim of the pelvis, where there was an ulcer two-fifths of an inch in diameter. In the floor of the bladder there were numerous deposits of new formation, and the wall of the vagina was also infiltrated, in places, with the same growths. The outline of the body of the uterus was not distinguishable, but on following its cavity it was found to be bound down to the rectum, being sharply retroflexed, and infiltrated with the new formation. Numerous cysts were found on either side of the body of the uterus, the larger of which were one and a quarter inch in diameter, and corresponded to the location of the Fallopian tubes. The ovaries could not be distinguished.

Examination of the new-growth under the microscope showed it to be carcinoma. It was characterized by an abundant stroma of connective tissue with alveoli of various sizes, some of which were quite large and were filled with epithelium. The epithelium was small, flat, and cuboidal in shape, and distinctly nucleated. The growths examined in different parts of the organs where this new formation was seen exhibited the same structure. In various organs the walls of the blood-vessels were seen to be thickened. The seat of the primary growth was undoubtedly the uterus.

Metastatic Carcinoma of the Stomach.—Dr. John S. Ely presented some specimens illustrating carcinoma of the right testicle, with metastases in the lungs, stomach, and falx cerebri. The patient was a man, thirty-nine years of age, who had entered St. Luke's Hospital on account of a painful tumor in the right testicle. He had been ruptured for about twenty years, and had worn a truss all that time, and the previous winter had procured a new one, which had fitted poorly and had caused a good deal of irritation and discomfort. About three months before admission to the hospital he had noticed that the testicle was enlarged, rather hard, and tender, and a little later he discovered a hard mass extending upward and outward from the testicle, to which it seemed to be attached. The sac of the hernia was above this mass and was reducible. The testicle was removed, and was found, on microscopical examination, to be cancerous. Two months after leaving the hospital the patient began to have pain in the right inguinal region, and soon a tender tumor was discovered in this place. On examination the tumor was found to extend upward as far as the level of the anterior superior spinous process of the ilium, and inwards to the external border of the rectus abdominis muscle. Laparotomy was performed by Dr. B. F. Curtis, but a mass of such considerable size was found lying against the lumbar vertebræ that it was deemed inadvisable to attempt the removal of any of it. About a month later the patient died. At the autopsy numerous nodules were found scattered throughout the lungs, varying in size up to one and one-half inch in diameter, most of them white with reddish spots, and circumscribed, though in the lower portion of the left lung there was much diffuse infiltration of white tissue. The bronchial glands contained some cheesy nodules. In the cardiac portion of the stomach, near the greater curvature, was a mass resembling the other tumors, which was apparently in the submucous coat. This was found on section to consist of two small nodules. There was a mass of nodular growths along the psoas muscle and vertebral column from Poupart's ligament to the diaphragm. There were also a few isolated nodules along the dorsal vertebræ. The mass in the pelvis enveloped the large vessels to a great extent, and in the lower portion of the inferior vena cava, and in the right common iliac vein there were firm clots, somewhat adherent in spots, soft and gray. A few small nodular growths, some of which appeared to be ulcerated, projected into the lumen of the vena cava. In the falx cerebri, about one and one-half inch from the anterior end, was a tumor one inch in diameter, irregularly nodular, and of encephaloid consistence, reddish exteriorly, but gray in the centre. Microscopical examination of all these neoplasms showed them to be the same in structure, the tumors being recognized as medullary or encephaloid carcinomata.

Irritation caused by the truss or by the non-descent of

the testicle may have had something to do with the development of the cancer, which spread along the pelvic and lumbar lymphatics. Metastases in the stomach were very rare; he had only been able to find twenty-four such cases mentioned. The case was a striking verification of the statement made years ago by Virchow, that malignant tumors occurred least frequently, metastatically, in those organs in which they are most common as primary growths. Metastases of the dura mater and falx cerebri are quite unusual, only twenty-five cases of metastasis of the whole dura mater being found in a series of three hundred and sixty-six cases of primary carcinoma of the mamma. An examination of the lungs showed numerous arteries filled with clots, many of which contained large numbers of epithelial cells similar in every respect to the epithelial cells found in the tumors throughout the body; and similar to the epithelial cells which were visible in the specimen showing a nodule in the inferior vena cava. This nodule showed a rupture of its walls on the upper side, and over this was a small clot.

Dr. Dowd said regarding the question of irritation as a factor in the production of cancer, that it was interesting to recall the statistics of Siegler, which showed that out of a large number of collected cases, from seven to fourteen per cent. could be traced to irritation. Wolff also gave the statistics of a series of cases of carcinoma occurring in one of the Berlin clinics during a period of eleven years. Out of about six hundred cases, fourteen per cent. gave a history of traumatism.

Dr. B. F. Curtis thought there could be no question about the greater liability of the undescended testis to malignant disease; and when the testis was situated near the ring, this was particularly noticeable. But in this connection it was curious to note how rarely malignant growths were found in connection with epididymitis, hydrocele, and other inflammatory conditions, in which the testicle was exposed to violence.

Cancer of the Breast.—Dr. Curtis then presented a series of large sections of carcinoma of the breast, made through the entire gland by means of the special microtome used for cutting similar sections of the brain. The specimens had shrunken about one-third in the hardening process. The sections had been stained with various agents, such as carmine, hæmatoxylin, and saffronine. The first section showed the growth occurring in a very stout woman, in whom there was a layer of fat about one inch thick between the gland and the skin. The second section showed the growth in the centre of the gland, spreading through the nipple into the skin. As was usual in cases involving the skin, the recurrence in this patient was very rapid. The third specimen was from a woman of about forty-five years of age, who had never had any children, and in whom the gland was quite small. The degeneration had spread through the gland and into the nipple, but the mass was entirely distinct from the nipple. The patient died from early metastasis in the liver. The fourth specimen showed the involvement of the nipple; and the fifth slide showed a specimen of cystic carcinoma. Dr. Freeborn had rendered valuable assistance in the preparation of these sections.

Primary Cancer of the Gall-Bladder.—Dr. Frank Ferguson presented specimens removed from a woman sixty-seven years of age, who was admitted to the New York Hospital in a moribund condition. At the autopsy, the entire gastro-intestinal tract was found to be free from cancerous growths. The side of the gall-bladder next to the liver was thoroughly infiltrated with cancer, the thickest part of the growth in its walls being elevated one-fourth of an inch above the mucous membrane. From the neck of the gall-bladder to the common duct, the duct was normal. The gall-bladder contained two calculi of moderate size, triangular in shape, and having fairly sharp angles. The liver extended in the median line to the umbilicus, and on the right side to the crest of the ilium. Its surface was nodular, and the organ itself contained large cancerous masses, such as were usually regarded as secondary to cancer in the gall-bladder. Dr. Ferguson considered that the cancer of the gall bladder was primary, for the following reasons: 1. A number of cases of primary cancer of the gall-bladder had been reported. 2. Primary cancer of the liver was extremely rare—he had not met with a single case in his own experience. 3. In cases which had been conceded to be primary, the growth had occurred as one or two large masses confined to one portion of the liver. 4. The growth in the present case was continuous with the mucous membrane of the gall-bladder. 5. In accordance with the law already alluded to, viz.: that those organs which were commonly the seat of primary cancer were very rarely the seat of secondary generalization.

Intestinal Diverticula.—The case was also of interest as presenting the somewhat rare condition of intestinal diverticula. These diverticula were of various sizes, extending from the mucous membrane through the muscular wall of the large intestine, and containing masses of hardened fæces. There was a cavity in the retro-peritoneal tissue which established communication between the gut and the peritoneal cavity, and gave rise to a general peritonitis. Some time ago a similar case had been presented by Dr. Hodenpyl.

Dr. H. M. Biggs said that about two years before, Dr. Ferguson had presented a specimen of this sort, and had commented on the rarity of its occurrence in his own experience. The speaker had given the matter careful attention since that time, and had observed four cases—one in which there was perforation, and three in which this condition did not exist.

Dr. Ferguson replied that he always examined the large intestine carefully, but had only been able to find six examples of the condition in question. Even quite recently, the literature showed only a very few recorded cases.

Hemorrhage from the Supra-Renal Capsule in very Young Children.—Dr. Hodenpyl said that Dr. Prudden had recently presented a case of hemorrhage from the supra-renal capsule in a very young child; and he desired to add another case showing some peculiar features.

The child from which his specimens were taken was born after a perfectly normal labor, and appeared to be doing well up to a few hours before death, which occurred on the third day, after sudden symptoms of collapse. The autopsy showed the abdominal cavity distended with blood, which had come from a rupture of the right supra-renal body. The remarkable feature of the case was that the supra renal body had penetrated the under surface of the liver, and stripped up Glisson's capsule for a considerable distance. There was also an infarction of the lung.

Abscess of the Spleen.—Dr. Hodenpyl also presented a case on this subject. The specimen was removed from a man about forty years of age, who died with symptoms of chronic Bright's disease. The kidneys showed the changes of the advanced stages of this disease. The spleen was quite large, and surrounded by a mass of thickened fibrous tissue and adhesions, in which was a sacculated abscess. In the lower part of the organ, the spleen pulp had broken down, forming a cavity which was filled with fetid pus. There was no evidence of infarction, the brain, lungs, and heart were normal, and the speaker was at a loss to account for the condition.

Pachymeningitis Interna Hemorrhagica.—Dr. William P. Northrup reported three cases of this affection as supplementary to the case presented by him at the last meeting of the Society. They were taken from the records of the Foundling Asylum. The first case was that of a girl four years and seven months old. The child was returned to the asylum in midsummer in miserable condition, with a diagnosis of tuberculosis. It improved later, then had whooping-cough, and suffered from diarrhœa characterized by a very offensive odor, and after this failed and finally died after three days of repeated convulsions. On autopsy its body was seen to be ex-

tremely emaciated. The brain was normal, pia mater œdematous. The dura mater lining the left half of the calvarium was covered with an exudate as thick as blotting-paper, opaque, mottled-red, dark and pale. The right half was covered with a thin pellicle which could easily be scraped from the dura mater, and when placed under the microscope was found to contain an abundance of newly formed blood-vessels with thin walls. The lungs were adherent, œdematous, and the seat of chronic broncho-pneumonia. There were no tubercles in any part of the body.

The second case was that of a male child, four months and nineteen days old, whose chief symptom was drowsiness. It "looked sick," but physical examination gave a negative result, and no diagnosis was made. It died after a prolonged series of convulsions. At the autopsy the anterior fontanelle was seen to be widely open, and the frontal suture was also open down as far as the nasal eminence. There were no signs of inflammation nor of external injury. The dura mater investing the inner surface of the posterior half of the skull from the base to the apex, was covered with a pellicle which could be easily scraped from the surface and which showed under the microscope newly formed vessels with thin walls, dotted everywhere with points of hemorrhage. No other lesions of moment were found in the case. There were no tubercles and no evidences of meningitis.

The third case was that of a male child, nine months and nineteen days old. The child was returned to the house in a wretched condition, and died after repeated convulsions. At the autopsy it was seen to be markedly rachitic. There was a well marked exudate upon the entire surface of the brain from the vertex to the base; the ventricles were dilated; the medulla was normal. The dura mater in the middle fossa and inner surface of the temporal region was covered with a fine pellicle containing newly formed vessels and punctate hemorrhages. This pellicle was easily stripped from the inner surface. There were no other lesions.

In addition to these four cases the records of this Society, Dr. Northrup said, furnish at least two more; one a child twenty months old, having meningitis and pachymeningitis, presented by Dr. L. Emmet Holt, in 1887; the other a child of eighteen months, presented by Dr. S. J. McNutt within the past year. Pachymeningitis is "characterized by the formation of layers of delicate connective tissue with numerous very thin-walled blood-vessels from which the blood is prone to escape" (Delafield and Prudden). As there had been some doubts expressed as to the correctness of the diagnosis in the case presented by him at the last meeting, he desired to have the specimen referred to the Committee on Microscopy. He had met with only four cases, all under two years of age, in an experience founded upon fifteen hundred autopsies.

The Society then went into executive session.

Stated Meeting, April 9, 1890.

J. WEST ROOSEVELT, M.D., PRESIDENT, IN THE CHAIR.

Report of the Committee on Microscopy.—DR. JOHN S. ELY, from the Committee on Microscopy, reported that the specimens submitted by Dr. Northrup, at the last meeting of the Society, presented the appearances of pachymeningitis interna hæmorrhagica.

Small and Large Round and Spindle-cell Sarcoma.—DR. JOSEPH H. LINSLEY presented a specimen removed from the body of a man, aged fifty-three, giving the following history: The patient was a German, who was admitted to the Post-Graduate Hospital, under the care of Dr. Kammerer. The tumor was first noticed about thirteen years ago, but it remained quite small (the size of a tea-cup) until about four weeks before admission, at which time it began to grow very rapidly. For the past two weeks it had caused distressing dyspnœa, increased by exertion and becoming rapidly more serious every day. The patient became emaciated, had dysphagia and distressing periods of coughing. From the location of the tumor it was undoubtedly of the thyroid gland; it measured perpendicularly five inches, extending from two inches above the sternum to three inches below the mental process; the transverse measurement carried over the cricoid was six inches; the skin was raised from its normal level about two and one-half inches over the centre of the tumor. The shape was symmetrically round except that from the right upper portion a lobe extended upward to near the angle of the jaw, while on the left side there were two inches between the border of the tumor and the corresponding angle. The skin covering the tumor had a normal appearance. The tumor was hard and somewhat nodular, not painful nor tender on pressure. Several introductions of the exploring-needle gave no evidence of its being cystic. While the tissues were not flabby, there was still a tendency to sag. The patient was put under chloroform and died during the operation on the table. The tumor extended to the vertebral column and was very firmly bound down by adhesions; it weighed six hundred and fifty grammes. The heart weighed four hundred and thirty grammes. The edges of the aortic valves were much thickened, and their surfaces somewhat roughened. The muscular tissue of the heart was of a brown color. The upper lobe of the left lung was poorly aërated. On the surface, and scattered through the organ, were hard, white nodules, varying in size from that of a small pea to that of an English wal nut. The lower lobe was poorly aërated and slightly œdematous. The apex of the right lung was completely infiltrated with these nodules, one of which measured about four centimetres in diameter, and was broken down in its centre. The middle lobe of this lung was deeply congested and œdematous. Projecting from the anterior surface of the lung was a fairly firm white mass, 3 ctm. in diameter. There were also many hard white nodules scattered throughout the lobe. The lower lobe was congested and œdematous, and contained a number of these nodules. On the surface of the left kidney were seen two hard nodules about one centimetre in diameter. In both kidneys the capsule was adherent, the surface was granular, and the markings fairly distinct. The mucous membrane of the stomach in general looked normal. Near the pyloric end was a hard white spheroidal nodule, 1 ctm. in diameter, the centre of which was depressed. In the lower part of the jejunum the gut was invaginated, though there was no obstruction. The mucous membrane of the colon was deeply congested. The lower part of the alimentary tract contained a large quantity of tarry material. At different places throughout the small intestine were found nodules and ulcers, varying in size from a pea to a silver dollar. The edges of these ulcers were somewhat raised above the surface of the mucous membrane, and their surface was nearly black. There seemed to be some increase in the connective tissue of the liver and a deposit of fat. On the anterior surface of the right lobe was found a small white nodule, ½ ctm. in diameter. The gall-bladder was normal and contained a small quantity of natural looking bile. The bladder contained a small amount of urine, and its wall was greatly hypertrophied.

Microscopical Examination.—The tumor was composed almost exclusively of small round, large round, and spindle-formed cells. There was a fibrous stroma, but it was not prominent, and the relation between it and the cells was most intimate. The vascular supply was abundant and the walls of the vessels thin. A considerable amount of granular matter, which stained poorly, was seen. The growth was a sarcoma. The alveola walls of the lungs were thickened and somewhat infiltrated with small round cells. A large area was seen where the structure of the lung was lost, its place being occupied by small and large, round and spindle-formed cells. Numbers of these cells were also seen in many of the air-spaces of the

lungs. In the kidneys a large area was seen extending from the cortical into the medullary portion of the organs, the structure of which was similar to that of the tumor. Very little of the normal structure of the spleen was seen in the sections examined. The greater number of the sections showed the presence in large numbers of sarcomatous cells. The interstitial connective tissue of the liver was increased, and areas composed of the same variety of cells before described were seen. Sections taken from the ulcers or nodules in the intestines showed the same sarcomatous structure. The villi were infiltrated with these cells, and a large growth of them was seen in the submucosa widely separating the muscularis mucosæ and the muscular coats. The blood-vessels were distended with blood, and the columnar epithelium covering the villi, in the neighborhood of the growths or nodules, were either very granular or wholly lost.

An Anencephalous Monster.—Dr. John S. Ely presented an anencephalous monster from the museum of the College of Physicians and Surgeons. The specimen also showed a certain amount of opening in the spinal column. There was absolutely no indication of any brain, all that was to be seen being some membranes with a little fluid beneath them. The speaker had seen four similar specimens within about four years.

Chronic Endarteritis.—Dr. Ely also showed some specimens removed from the body of a woman about fifty years of age. She had had the typical symptoms of chronic Bright's disease with contracted kidney. At the autopsy the kidneys were found to be extremely small and contained cysts, in some of which were to be seen arteries running through their walls. In the heart light spots were seen suggesting interstitial myocarditis. The lungs contained some brown induration. The liver was fatty and congested. There was chronic endarteritis generally distributed throughout the body. The point of special interest in connection with the specimen was to determine whether the kidney trouble or the endarteritis were the primary lesion.

Pachymeningitis Interna Hæmorrhagica.—Dr. William P. Northrup presented another specimen, supplementary to those submitted at the two previous meetings, showing the lesions of pachymeningitis interna hæmorrhagica. The specimens were taken from the body of a child about one year old, who was sick about one month. When it first came under observation it had diarrhœa, a temperature of 104° F., was restless, and somewhat rigid. Apart from this it had no special cerebral symptoms. The diarrhœa improved, but the child continued fretful and had a moderate cough. There were at no time convulsions, paralyses, eye symptoms, nor tâche cérébrale. The child subsequently developed acute enteritis with a final temperature of 107° F., and died.

Autopsy.—The body was moderately well nourished; there was a slight rachitic rosary. There was moderate internal pachymeningitis with slight hemorrhage. One patch, more marked than any other, was situated at the left apex of the calvarium. A film made up of fine vessels could be easily scraped away. Aside from the patch at the left apex was a diffusely distributed delicate pellicle with fine vessels, the course of the latter being marked with punctate hemorrhages. The pia was œdematous and "wet," but was itself normal. The heart was normal. The bronchial lymph-nodes were enlarged, red, not tuberculous. Moderate congestion and consolidation of the posterior margin of both lungs, with scattered lobules of pneumonia and bronchitis. The mesenteric nodes were large and red, Peyer's patches were swollen and red, and there was an increase of mucus. Among the long bones examined, the lower end of the femur showed an irregular line of ossification.

The Society then adjourned.

The University of Louvain has added a course of medical ethics to the ordinary programme of professional study.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

HOSPITAL NURSES AND THEIR WORK—GRAVE CHARGES AGAINST THE LONDON HOSPITAL—THE NATIONAL PENSION FUND FOR NURSES—DEATHS OF SIR EDWIN CHADWICK AND PROFESSOR W. K. PARKER—THE COLLEGE OF SURGEONS.

London, July 12, 1890.

In a recent letter I referred to some statements which had been made in the public press here regarding the unsatisfactory status, onerous duties, and inadequate pay of hospital nurses. The statements to which I referred were general ones, and no one hospital in particular was specified as deserving of censure in regard to its treatment of the nurses in its employ. The general alllegations made, however, have now come to a distinct head as regards the largest metropolitan hospital (the London), for a series of definite charges have been made against the way in which the nursing arrangements have been managed. These charges have been made before the House of Lords' Select Committee on Hospitals, now sitting. Some of them, if fully established, are sufficiently serious. A former chaplain, several nurses, the matron, and the hospital secretary have already given evidence before the Committee. It is alleged that the number of nurses are inadequate for the work, and that in consequence they are overworked, and that many of them have suffered in health. The food was bad, and the drainage defective. Some of the wards were overcrowded, and on several occasions when Sir Andrew Clark—who strongly objected to overcrowding—visited the hospital, a number of patients in his ward were wheeled out, and half an hour after he had gone they were wheeled back again. One probationer stated that after being at the hospital only a fortnight she was put in charge of a tracheotomy case as special nurse. Probationers of much less than two years' service were sent out to private patients at good fees as thoroughly trained nurses. Complaints were also made of probationers and nurses having been dismissed on insufficient grounds and without proper notice. Other charges were also made besides those I have briefly summarized above. The matter is not yet fully threshed out, but it is only fair to say that some of the charges were strenuously denied, both by the matron and secretary. Some, however, were admitted. The matron denied that the nurses were overworked. For the actual hospital work there were two hundred and eighteen members of the nursing staff, and twenty-two ward-maids, who were non-resident. (The in-patients at the London Hospital number nearly eight hundred.) She had no knowledge of overcrowding of the wards. She had made a strong report to the House Committee in 1882, as to the food, and the result had been a gradual and great improvement. It was admitted that probationers were sent out to private patients as trained nurses. The matron had now (though only since last November), the power to dismiss probationers. The London Hospital is the largest in the United Kingdom, and is also one of the poorest; hence the importance of thoroughly sifting the present charges cannot be over-estimated.

A more pleasing incident to chronicle in connection with hospital nursing is the garden fête at Marlborough House, at which certificates were to be presented by the Princess of Wales, to the first thousand nurses who had joined the National Pension Fund for Nurses. A large proportion of the thousand nurses did actually attend on the occasion in question. Established only three years ago, it must be admitted that the success which the Fund has already attained is phenomenal. It owes its origin to the generosity of four city merchants—one of them (the late Mr. Junius S. Morgan) an American citizen—who gave a sum of £5,000 each, thus enabling £20,000 to be

deposited with the Court of Chancery, so that the fund could be incorporated under the Insurance Companies Acts. Mr. J. S. Morgan subsequently gave a second donation of £5,000. The invested funds now amount to £67,000 (more than one third of a million dollars), and of this sum nearly forty thousand pounds has been received in voluntary donations—the balance representing the contributions from nurses to the Fund.

Two noteworthy deaths have just occurred—those of Sir Edwin Chadwick, and Professor William Kitchen Parker, respectively. The former was not a medical man and was, in fact, originally educated for the legal profession. Sanitation, however, early attracted his attention, and during the last sixty years he has been one of the foremost exponents of sanitary reform. He died this day week, at the patriarchal age of ninety.

Professor Parker was a medical man, but it will be as a zoologist—not as a practitioner—that he will be remembered. His medical qualification was for years only the license of the Apothecaries' Society, and it was only in 1873, after attaining distinction, that he became a member of the College of Surgeons.

The Council election at the College of Surgeons comes as a disappointment to those who are ardent advocates of reform at that institution. Of the three candidates elected only one, Mr. Mitchell Banks, is in favor of reform, but the would-be reformers may derive some consolation from the fact that Mr. Banks heads the poll by a considerable majority over the next two candidates elected. Mr. Bryant has been elected to the Presidency of the College in succession to Mr. Jonathan Hutchinson.

DOWN IN DIXIE.

A Second Birmingham, Ala., Letter.

(From our Special Correspondent.)

To the Editor of the Medical Record.

Sir: The letter which I recently sent you from Birmingham, and which appeared in your issue of July 5, 1890, has met with such a flattering reception, that I am tempted to write you a quasi-continuation of my observations in the New South. It is an indisputable advantage of mental photography that the supply of sensitive film-plates need not become exhausted, until the first serious symptoms of cerebrasthenia are noticed by the supplier. Even a large-sized Kodak holds but a limited amount of impressionable material. But a well-regulated Northern encephalon, on its virgin trip through the South, is almost all impressionable stuff. You just drop a nickel in the cerebral slot, as it were, and take out a brand new impression on anything that may have happened within the limitless horizon of the mind.

The Colored Problem Again.—It is, of course, not to be expected that these nickel-in-the slot views can please everybody. Human nature is not made that way. It would kill variety, the very essence of life. But you step on my corns and I'll step on yours, has always been considered good Christian doctrine. I have been taken to task for solving the race problem, which is a question that was never intended to be solved at all. So say my critics, and critics always know. I am one of them myself.

Now, it must be painfully humiliating for the light comedian to have his audience provoked to tears of sad emotion, when his sole purpose was to make them lacrymate with laughter. Yet such a fate will have to be my sorry portion, if the *Birmingham Youth-Herald* and its journalistic me-too, the *New York Tribune*, are to be credited with the possible expression of unbiassed conviction. At any rate, these leading Administration sheets *solemnly* agree on the one vital point of violently denouncing my impertinent solution of the race problem. But they might as well stop fulminating. The problem *is* solved, and will remain so. The negro question is no longer a live political issue. The Force bill comes too late now. I cannot tell a lie, I did it with my little yellow dog.

For those interested in history I may say that Judge Fenner, of the Supreme Court of Louisiana, has just published a lengthy article on this self-same problem, in the June number of *Belford's Magazine*. Had this learned legal luminary known how speedily the question was to be finally disposed of, he probably would never have written the following: "The negro must, therefore, understand that the race problem is not a Federal question; that it is a false and foreign issue in national politics; that the Federal Government lacks the inherent power to deal with it; that its interference provokes and creates evils which it is powerless to remedy; and that, if the problem is to be peacefully solved at all, it can only be by the action and co-operation of the people, white and black, of the several States.

"Turning to these inevitable and exclusive factors in the solution of this mighty problem, we feel ourselves lifted into a different sphere of motive, of action, of responsibility. The meddlesome impertinence, the rash empiricism, the irresponsible tinkering, the petty and sordid considerations of party advantage, the arch insincerity which, at bottom, desires nothing so little as a peaceful solution and hails every outrage as fresh grist to the political mill, and all the kindred follies and frivolities which characterize the treatment of this question as an issue of national politics, pass into the limbo of utter insignificance and irrelevancy.

"To the whites and blacks of the South this question presents a different aspect. It looms before them as a gathering thunder-cloud, black with wrath and desolation, instinct with lightnings, whose fugitive bolts already strike, now here, now there, solemn warnings of the consuming fires which, if that cloud bursts, will scorch and wither this fair land.

"It behooves us, brethren, white and black, to take counsel together, while there is yet time, to see what we can do to avert this peril and to solve this problem which God has given into our hands. Whither are we drifting? Toward a war of races. Not, perhaps, a war fought in the open field, with organized battalions; the forces are too unequal for that; but toward a settled and perpetual race-conflict, inspired by mutual hatred, suspicion, and distrust, with opposing forces mustered in every village and hamlet and household."

In conclusion the author of this powerful essay says that: "If the negro seeks a higher and a nobler destiny, Providence points it out to him with unerring finger. An undeveloped continent, the birthplace of his race, lies before him, peopled by millions of his brethren, who exist in the same state of ignorance and barbarism from which slavery extricated him. If he is capable of standing alone, of maintaining and of spreading the civilization which he has acquired, there is his true field, to which he is called by every sentiment of duty to his race and to its birthplace. I talk not of deportation, or of any sudden or rapid exodus stimulated by artificial aid or exhortation; but of a natural, gradual, voluntary movement, under the influence of high motive and of wise consideration, which will accomplish itself gradually, safely, and without shock, according to the laws which govern the shifting of population."

Now, with all due deference to Judge Fenner, I submit that his advice comes about as near to my yellow-pup solution as a black cat does to a white one, on a dark night. I almost feel convicted of plagiarism in having unwittingly put his legally-clad suggestion into plain English. But this is a medical journal and, therefore, let us play ball.

Southern Fever versus Typhoid Fever.—Fever is very prevalent in the South. There is much difference of opinion among medical men as to the true nature of the continued febrile affections that have their home there. After much study of this moot-question, after earnest

conversation with leading Southern practitioners, and after some slight personal experience, I have come to the conclusion that Southern fever, or fevers, ought to be re-studied and rewritten, in the light of modern research. What we want to know is the pathology of these conditions. What, if any, are the specific microbes belonging to them? Is the malarial organism pathognomonic of paludal poisoning? Does it occur only in true malaria? Is there a mixed infection from typhoid bacilli and malarial micro-organisms? These and kindred questions have suggested themselves to me, as they probably have to others. Why do not the Southern physicians bestir themselves to give reliable answers to them. We have had enough of mere clinical observation. We have had enough loose and hap-hazard society talk, representing the views of Dr. So-and-so, and the totally divergent views of his fellow-practitioner, Dr. This-and-that, from the same town. What good does it do for one man to get up and solemnly declare that all these cases are instances of typhoid fever, when an equally honest and accurate observer will rise immediately afterward and stake his reputation on the positive assertion, that they are without exception continued malarial fevers. Even in America we have happily outlived the era in medicine when the slightest value attaches to views so loosely expressed. We need accurate, scientific research, coupled with experimental and clinical observation, that will stand the test of ready confirmation by independent investigators. Anything short of this will be rightly considered mere verbiage or padding.

It is for this reason that I refrain from putting side by side, as was my original intention, two tables comprising groups of symptoms that were to serve as a means of differential diagnosis in cases of Southern fever. The one group contained the symptoms of typical typhoid fever, as ordinarily seen in the North, and the second, supplied by two busy practitioners of Birmingham, contained the symptoms alleged to belong to "Birmingham fever."

A Word of Warning Concerning Birmingham.—That the Southern fever of the city mentioned is more apt to be an atypical typhoid than a paludal fever, I am convinced of, for the simple reason that a severe epidemic of true typhoid fever occurred there in 1881. At that time the place had a population of perhaps four thousand, and five hundred cases (at a low estimate) of typhoid fever were observed. (See *Transactions of the State Society of Alabama*, 1881.)

In every succeeding year since then, many "fever cases" have occurred. And there can be no doubt that endemic influences exist in Birmingham to perpetuate the fever. That malaria is also rife there, and may complicate a given case, does not in the least militate against the view that most of the "Birmingham fever" cases are really instances of true typhoid fever.

So long, therefore, as the sanitary conditions of Birmingham remain in their present state, it is an excellent place to stay away from. But if a Northerner must needs go there, let him not be unmindful of certain necessary precautions as to drinking-water, food, clothing, etc. I would also warn any Northerner about first going there in the summer months, the fall and winter months being less dangerous.

Conscientious practitioners there will agree with me, in strongly urging the immediate transportation to a climate or place free from "local influences," of any fever case that is at all suspicious, especially when it happens to affect the person of one not yet thoroughly acclimated.

A Visit to the Pratt Mines.—About seven miles out from Birmingham, by the Ensley City Dummy, you reach the largest coal mines in the South, the famous Pratt mines. The daily output from these mines is nearly five thousand tons, and many hundreds of laborers find steady employment there. Coal is mined in six slopes and two shafts. Shaft No. 1 and slope No. 2 are peculiar in being worked under the reprehensible system of convict labor, which still obtains in the State of Alabama. Most of the convicts are colored, and the offences for which they do hard labor are often of the petit larceny kind.

The unaccounted-for acquisition of property in the chicken and watermelon line, usually entitles the discoveree to mine coal for the Pratt people, for a very arbitrary period of time. The State treasury benefits thereby to the extent of about thirty-five cents per day, the sum paid by the mine owners for every working convict. It is a beneficent system, which makes coal cheaper than it would otherwise be. But the colored people hate the very name of "Pratt Mines," which is to them the American synonym for Botany Bay.

The village of Pratt Mines is a straggling conglomeration of white cottages and black squatter huts. Doctors are plentiful even there. A constantly shifting population of about seven thousand is supposed to support twelve doctors. An intelligent-looking variety-store-keeper, when questioned how so many doctors managed to get a living out of so few people, said: "Well, Cap'n, I dunno haow thay do it, but thay do do it for a fack," which answer was probably strictly true.

The Prison Hospital of Pratt Mines.—This little hospital appeared to me a model institution of its kind. A neater, cleaner, more inviting infirmary I have rarely seen. The credit for this spick and span, new look of the hospital is due entirely to the vigilant care of the doctor in charge, who is himself a convict. It seems that this physician, who received me with the grave dignity and stately presence of an old-time courtier, once held a public office of trust. In a moment of alcoholic relaxation a petty embezzlement became his guilty misfortune. Five years penal servitude seems harsh punishment for a slight offence. But justice is too often a farce down in Dixie, at least for white crimes. Perhaps such lessons will produce salutary effects. It seemed a pity, though, that a gentleman of such evident culture, a physician of unusual learning, a man whom nature seemed to have intended for high stations, should spend his days in ministering to the wants of ailing negro convicts.

Birmingham's Chief Industries.—The Magic City is completely encircled by a mighty belt of furnaces, coke ovens, iron and steel plants, rolling mills, and factories of all conceivable kinds. Hundreds of tall chimneys "belch fire and rolling smoke" all night, long as well as in the day-time. The furnaces are compelled to do business twenty-four hours a day, seven days in the week, just like the leading saloons. Most of the latter (and there is quite a sprinkling of latters) are "open all day," their pan-nocturnal patency being a matter of course. As for the spirits conducive to healthful life and multifarious activity, commend me to a Birmingham night following pay-day. It is the Saturday pay that makes a quiet Sabbath, though it fills more bed-rooms with big heads than church-pews with wide-asleep conformers. But towering far away and above the infant industries already mentioned, there rise before the awe-struck gaze two grasping monopolies. They are the totally-eclipsing chewing-gum trust and the consolidated patent medicine syndicate. It is true, some able-bodied men do find employment in iron foundries, in factories, shops, and warehouses. But everybody, man, woman, child, and mother-in-law, is permanently engaged in the chewing-gum field of labor. Cotton was king in the South, years ago; but he has abdicated, and the royal prerogatives have fallen on the graceful shoulders of Queen Gum. So it happens that any leisure moments that the loyal subjects of her Majesty of Spruce and Tolu are able to snatch from those arduous duties which may be called the stress of chew, are devoted to the hopeless consumption of patent medicine.

One of the most eminent Southern statisticians, a man who has devoted his entire life to the elucidation of the gum question, informs me that the last census contains a gross libel upon the fair fame of the sunny South, in placing the per capita daily mastication of gum as low as seventeen packages. He asserts that the corrupt per-

son who compiled these figures must have been entirely out of his census, and should chews another calling. In 1890, he feels assured, the honest enumerator will vindicate the chewing capacity of the indigenous citizen by a truthful statement of the real facts. Nobody down here, with an iota of respect for himself or his surroundings, no person of chivalrous disposition, of dignity, patriotism, or positive religious convictions, was ever known to chew less than twenty-nine different varieties of gum, every waking day of his, her, or its life. In fact, I distinctly recall a professional sleeping beauty, who diligently masticated while Morpheus hugged her in close embrace. But Southern gum is good gum, that is true, and while testing its various virtues, I often felt impelled to wish for a speedy metempsychosis into the higher order of ruminantia. So, too, the propriety of lending proper emphasis to a plain statement, by invoking "gum," no longer admits of any doubt in my mind.

As for patent medicines, they or their initials thrive on every fence, grow on all trees, luxuriate in undisputed possession of every nook and cranny which is not already filled out by a healthy real estate boom. If you want to study the astounding capability of combining in countless ways the innocent letters of our meagre alphabet, go to Birmingham, and study its surroundings.

The Beauties of Nature.—The S. S. S., the R. R. R., the W. W. C. (I can assure suspecting readers on good authority that the first W. does not stand for women's) the X. X. X.—these and untold other letters, presumably pregnant with deep significance, adorn the landscape in such fashion that poor nature is put to shame, and accordingly keeps her head hidden from sight. Thus no flower blossoms in Birmingham, no luscious vegetable puts forth tender buds of hope, the woodbine twineth not, neither does the cranberry cran. A sterile plain, heavy-laden with stifling dust; zephyrs on whose wings are wafted breezes that smut your face and cover you with a dismal film a mummy would take pride in; no songbirds to gossip in the sulphur-charged atmosphere; no tempting river suggestive of a coolness that the furnace-heated air can never hold—such are some of the natural advantages possessed by this subtropical town. Man has added to these blessings the ceaseless din of dummies, the rush and roar of trains, the steady screech of steam-whistles, the harsh clang of bells, the rattling of heavy carts over hard pavements—this to please his ear. The structures he has reared to favorably impress the sight, the smells he has established to pleasantly titillate his olfactories, the menus he has concocted to agreeably touch his palate—all these things, although pertaining chiefly to the grosser senses, he has already brought to a rare degree of perfection. And the future is still before this Birmingham-hammer. But mortal pen must pause on the threshold of the possible. What lies beyond is all "imagining," and bereft of the good sense that the reader has the right to demand of your correspondent.

EDMUND CHARLES WENDT, M.D.

WAVE CREST, FAR ROCKAWAY, N. Y., July, 1890.

CATS, CHICKENS, AND DIPHTHERIA.

TO THE EDITOR OF THE MEDICAL RECORD

SIR: In your issue of June 21st, you commented upon Dr. E. Klein's investigation of diphtheria as coming directly from the cow and cat.

I would like to narrate three cases of diphtheria that occurred in one family, in my practice about three years ago. On May 6, 1887, I was called to see a little girl two years of age who was taken with malignant diphtheria. She lived five days and died a horrible death. Isolation, disinfectants, and all other precautions were used to prevent the remaining three children from taking the dreaded disease, but, notwithstanding all this, only a few days elapsed before it had marked a boy of eight years for its victim, and in five days he died. Not long after this the third child, four years of age, was taken with the same disease, and he lived two weeks and died with paralysis. Different physicians were called in consultation in these cases, but all our efforts would not check the onward march of the disease. As it manifested itself in such a malignant form the father and myself thought we would search the cellar and yards for the cause. Nothing was found that aroused our suspicions excepting some damp and decayed boards in the cellar and a dead cat under the piazza.

A few days after this the father read and showed me an article in the *New York Times*, in reference to the fatality of diphtheria when contracted from the lower animals. He then narrated to me the following story:

"Previous to my children's sickness they had a pet cat of which they were very fond. It was taken sick very much as my children were with swollen throat and running at the nose, and as it wandered away we saw it no more. Thinking it was dead I immediately got another cat for the children, and that was taken with the same symptoms and soon died. Also some chickens in the back yard were found dead."

After hearing this story I was not long in deciding the origination of the disease as far as the children were concerned, as the first child was taken only a few days after the death of the cats and chickens.

J. E. SAYRE, M.D.

RED BANK, N. J., July 17, 1890.

INFANT FEEDING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: At this season every year the subject of infant feeding comes up as vigorously as if it had not been exhausted long ago by the annual onslaughts of hundreds of physicians in city and country throughout the world, and at this late day it would demonstrate a condition of highly developed egotism for a person to presume that anything entirely new could be suggested. But as we profit often by comparatively unimportant observations, my plan of feeding these slight specimens of humanity may be admissible.

There is nothing among the many prepared foods, in my opinion, as good as cow's milk, but very much depends on the quality. In small villages, such as ours, or in country districts, milk is obtained from adjacent farms, where, during the summer months, the cows are allowed to graze. This is not objectionable provided the pasture lot is free from noxious weeds, but the rule is that weeds are abundant, and of course the cows have free access to them. My experience and observation prove that the action of the infant's bowels is a pretty accurate indicator in this matter. As soon as the cows begin to feed on this unwholesome provender diarrhœa will begin its depleting ravages. It has been my practice for the last five years —whenever practicable—to see to it that the cow or cows are healthy and in good condition, feed them good clean hay and grain, which will produce good pure milk. In the bottom of the pan into which the milk is strained a small hole should be cut and a cork inserted. After waiting a short time for the cream to rise to the surface, the cork is removed and nearly or quite one-half the contents allowed to run away, when the cork is again inserted. The remaining milk will be rich in fats and proportionately free from caseine. This, properly sweetened and diluted, furnishes, I believe, a food for infants second in value to nothing, save good wholesome mother's milk, which is, at the present day, exceedingly difficult to obtain.

E. W. BOGARDUS, M.D.

SENECA FALLS, N. Y., July 16, 1890.

Cardinal Lavigerie is having negroes trained as medical practitioners at Malta. Several have already completed their education and have proceeded to Central Africa.

Navy News.

Official List of Changes in the Medical Corps of the United States Navy for the week ending July 26, 1890.

STONE, L. H., Assistant Surgeon. Ordered to the receiving ship New Hampshire.

URIE, J. F., Assistant Surgeon. Detached from the receiving ship New Hampshire and ordered to the receiving ship Wabash.

NORTON, OLIVER D., Passed Assistant Surgeon. Granted leave of absence for the month of August.

BABIN, H. J., Surgeon. Granted one month leave of absence from July 23d.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 26, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	29	8
Scarlet fever	36	4
Cerebro-spinal meningitis	2	3
Measles	186	9
Diphtheria	77	29
Small-pox	0	0
Varicella	4	0
Pertussis	4	15

Prince Bismarck and the Young Physician.—There is an old story which has lately been revised and is now going the rounds of the press, both lay and medical, which is not improbable in its conception, and which is worth repeating for the benefit of some of the younger generation who may never have come across it. It is stated that Bismarck once called in a young physician who had been very strongly recommended to him. The doctor naturally questioned his illustrious patient very closely as to the nature of his symptoms, their duration, degree of severity, etc. The Prince is nothing if not grouty, and not relishing this cross-examination, dismissed the physician with scant courtesy. The latter hastened to depart, but before making his final adieu, offered the suggestion that the best thing for the Prince to do would be to send for a veterinary surgeon, since the latter never put any bothersome questions to his patients.

To Dry up the Secretion of Milk.—Dr. Darey reports in the *Montreal Medical Journal* a case of supernumerary breasts, in which it was desired to dry up the secretion of milk in the extra mammæ. This the patient assured him that she was always able to do by making a hot saturated solution of common salt, and applying it constantly on cloths as a fomentation.

Insanity in Italy.—It is stated that insanity is constantly on the increase in Italy. The proportion of lunatics to the entire population is nearly as one to one thousand, whereas seven years ago it was as one to one thousand four hundred and seventy-six. Among criminals the proportion is very great, being in exact figures 12.25 per thousand.

Camphoric Acid in Night-sweats.—Dr. Fürbringer recommends, in the *Charité Annalen* for 1890, the use of camphoric acid in an evening dose of thirty grains in capsules against the night-sweats of phthisis. It may be given also in alcoholic solution, if so preferred. A trial of a solution of the same remedy applied locally did not give satisfactory results.

Codeine as a Narcotic.—As a remedy to quiet abdominal pain, codeine has been recommended by Brunton, and in a short paper by Dr. G. Kolber, its use is advocated as a substitute for morphine in tubercular disease of the lungs and larynx. It has the advantage over the usual substitutes for morphine—such as the extract of hyoscyamus, extract of cannabis indica, and so on, in being more reliable in its action, and without some of their drawbacks. Systematic trials with codeine were made on more than seventy patients of various ages for a considerable period. The dose was from one-half to two-thirds of a grain, or from a grain and two-thirds to two and a half grains daily. It is, however, better to give large single doses than small and more frequent ones; for example, half a grain morning and evening is more effectual than a grain and a half in small divided doses throughout the da In some debilitated patients doses of half a grain caused vertigo and mental dulness; when the dose was reduced these symptoms disappeared. With very weak subjects it is well to begin with smaller doses than half a grain. It also has the advantage over morphine of being less constipating, though there are cases, as tubercular disease of the intestines, where it is desirable to check the diarrhœa with opium. When used in bronchial catarrh the patients expectorated more easily and less frequently. In simple chronic laryngitis morphine was found to be more reliable than codeine. In spite of the many desirable qualities possessed by codeine, it is, of course, less reliable in its action than morphine, but in many cases will answer as an excellent substitute for the stronger alkaloid.—*The American Journal of the Medical Sciences*, July, 1890.

Congenital Defect of the Pectoral Muscles.—Dr Benario reports a case of congenital absence of the pectoral muscles on one side of the chest which was observed in Professor Brieger's clinic. The subject of the deformity was a man aged twenty. On the right half of his chest in front the skin lay close upon the ribs, the pectoral muscle being altogether absent. Between the chest and arm there was felt beneath the skin a peculiar membranous extension, called by the author "flughautbildung;" also "schwimmhautbildung." There was slight right convex scoliosis. The right upper limb was shorter than its fellow (4 ctm.). Electrical examination proved that the condition was congenital, and not due to juvenile atrophy. Thirty cases of a similar nature were found recorded in the literature, 24 with absence of the pectoralis major, 6 with absence of the pectoralis minor and major together.—*Medical Recorder.*

Relics of Barbarism in the German Universities.—With all their learning and teaching power, the German universities retain some rather unlovely traditions, of which duelling is perhaps the most redolent of barbarism. True, the vast majority of "hostile meetings" between undergraduates seldom result in more than facial disfigurement; but sometimes, when firearms are the weapons chosen instead of swords, danger is inevitable, and even death may occur. A melancholy illustration of this has lately been witnessed at Wurzburg, where a highly promising and amiable "candidatus medicus" lost his life. Paul Fleurer, the unfortunate youth in question, seems to have played a truly chivalrous part in the encounter; for after a first, and then a second, interchange of shots, he held out his hand twice in token of reconciliation with his antagonist, but in vain. A third interchange was insisted on, and poor Fleurer fell mortally wounded, and died in a few minutes. At his funeral, which was attended by the students in large numbers, and with all the insignia of mourning, *oraisons funèbres* were delivered, the principal of which referred to the deceased as the victim of an "unfortunately still prevailing prejudice"—surely an inadequate condemnation of a practice which finds no favor in the better-mannered academic life of Great Britain and America.—*The Lancet.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 6.
Whole No. 1031.

NEW YORK, AUGUST 9, 1890.

$5.00 Per Annum.
Single Copies, 10c.

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Original Articles.

ARTIFICIAL PROLAPSE OF THE UTERUS—ITS DANGERS.[1]

BY H. C. COE, M.D.,

NEW YORK.

THE term "artificial prolapse" is of foreign origin, and is usually understood to signify downward traction upon the cervix sufficient to bring it to, or through, the vulva in order to facilitate diagnostic or operative manipulations. This procedure is generally recommended in English, French, and German works on gynecology, which usually devote a separate chapter to the subject. We are all familiar with the classical figure in Savage's monograph, illustrating the ease with which the uterus may be dislocated downward, and change in the anatomical relations of the pelvic organs which results from this extreme downward traction. It should be remembered, however, that this "displacement of the pelvic floor segments," as Hart and Barbour term it, is such as occur under perfectly normal conditions, and cannot be regarded as representing what actually takes place in ordinary practice. The reader of the foreign works to which reference has been made, would naturally infer that artificial prolapse was a simple and harmless procedure, similar to the passage of the sound. It is true that certain contra-indications are always mentioned, but only in a cursory way, and not in such a manner as to impress upon the tyro the fact that there are risks attending this procedure which should make him somewhat cautious about resorting to it except under certain clearly-marked conditions. We are inclined to be more conservative in this country, as will be evident by comparing the chapter on this subject in Hart and Barbour with the corresponding section in Mundé's "Minor Surgical Gynecology." It is the writer's purpose to briefly emphasize the cautions laid down by the latter writer, with the addition of some comments based upon the results of personal experience and observation. It may be assumed that nothing will be presented which is new in theory (if not in practice) to the specialist. The subject naturally divides itself into two heads—artificial prolapse of the uterus as practised for diagnostic purposes, and that for operative purposes. The conditions in the two are evidently somewhat different, since in the former case the patient may or may not be anæsthetized; in the latter she is under the influence of an anæsthetic.

I. **Downward Displacement of the Uterus in Order to Facilitate Diagnosis.**—In Hart and Barbour's manual the volsella is regarded as the proper instrument to be used for this purpose, and a separate chapter is devoted to it. The most recent work on operative gynecology (by Vulliet and Lutaud) also recommends its use. Professor Alexander Simpson early set forth its advantages in his "Contributions to Obstetrics and Gynecology." It is hardly necessary to describe the manipulation. The anterior lip of the cervix is grasped with the volsella and the uterus is drawn downward, while the examiner introduces his finger into either the rectum or the vagina—in the former case with the view of mapping out the fundus uteri, the adnexa, and morbid growths within the pelvis, in the latter usually, for the purpose of exploring the uterine cavity, after previous dilatation of the cervical canal. We may dismiss vesical exploration as a method of examination that has happily become obsolete. Examination per rectum with the uterus thus dislocated is commended as a means of diagnosticating displacements of the uterus and adnexa, and determining the relation of intrapelvic and abdominal tumors to the uterus. When it is necessary to introduce the finger into the uterine cavity for the purpose of detecting morbid growths, this manœuvre is undoubtedly facilitated by drawing the organ downward, with or without simultaneous pressure upon the fundus from above.

With regard to this aid to diagnosis it may be said that it is employed much less frequently than formerly. Davenport, in his excellent little work on non-surgical gynecology, makes no allusion to it. It is certain that since we have had such frequent opportunities of comparing the diagnosis made at the examining-table with that established after opening the abdomen we have advanced considerably in the refinements of pelvic diagnosis. It is true that there is danger that we may go to the other extreme and venture upon radical operations after such a superficial examination as that described in Tait's recent work, but the conscientious gynecologist who is constantly seeking to profit by his mistakes in diagnosis is bound to learn a useful lesson in this direction from every case of laparotomy. Now, experience in the operating-room and in the dead-house has shown that it is precisely these doubtful tumors, in which downward traction upon the uterus is recommended for the purpose of more clearly defining their relations, which cannot be displaced without danger. Of course all authors mention as contra-indications to artificial prolapse acute and subacute perimetritis and recognized disease of the tubes, though it is noticeable that Vulliet and Lutaud make no reference to the latter complication. It may be granted, then, that since most of these books were written we have learned a great deal more about the danger of interfering with adherent tubes and ovaries, unless we intend to remove them. The French authors alluded to are certainly unsafe guides for the inexperienced, inasmuch as they not only state that many gynecologists have been deterred from resorting to artificial prolapse through fear of "causing imaginary troubles," but strongly recommend it as the best means of determining the existence of pyosalpinx and chronic oöphoritis. To the mind of the reader this is dangerous teaching. If we have not yet learned to recognize disease of the adnexa by the ordinary methods of examination we have profited little by the vast amount of experience accumulated during the last five years. We are told that the relations of abdominal tumors to the uterus can be best ascertained by drawing the latter organ downward. That this procedure is not free from danger will be apparent to anyone who has observed a number of laparotomies for adherent ovarian cysts. We have made advances in the differential diagnosis of abdominal tumors, also our friends, the electro-therapeutists, have taught us to differentiate more exactly the various forms of fibromata, so that we hear less often of cases in which these are mistaken for ovarian cysts. Personally, the writer believes that the intelligent practice of the bimanual (with either vaginal or rectal examination) ought in the majority of cases to tell us whether a tumor is of uterine origin or is merely adherent to the organ. Cases should be rare in which it is necessary to dislocate the uterus by downward traction in order to settle this point.

[1] Read at a meeting of the Section on Obstetrics, New York Academy of Medicine, May 22, 1890.

The writer never remembers having seen artificial prolapse practised for this purpose during the seven years of his connection with the Woman's Hospital.

When we come to the second class of cases in which this manipulation is practised for diagnostic purposes—those in which it is necessary to make digital exploration of the uterine cavity—it is evident that the conditions are quite different. Here the trouble is supposed to be entirely intra-uterine, the uterus is freely movable, and the patient is preferably anæsthetized. Doubtless the uterus may be prolapsed under these circumstances with a minimum of danger and with great advantage to the examiner, it being assumed that he has previously made a thorough examination of the pelvis after the patient is under ether, in order to determine positively that no contra-indications exist. But even here the writer would limit its application to cases in which the uterus is situated so high up in the pelvis that it cannot be pressed down from above sufficiently to allow the finger to pass the os internum. The better way, unquestionably, after insuring proper dilatation with tents, is to insinuate the finger within the canal, and steadily and gently press the uterus down upon it, just as one would work on a tight glove. In this way the necessary amount of downward dislocation can be exactly regulated, and the counter-pressure exercised from below prevents any sudden slipping of the uterus.

Much more might be added with regard to the estimation of the size of the uterus and the recognition of displacements by the aid of downward traction, but it must occur to every gynecologist that he who is obliged to resort to it for this purpose must have learned imperfectly the elementary principles of his art. In leaving this branch of the subject the writer would state his belief that, in view of the recent advances in pelvic diagnosis, artificial prolapse of the uterus should rarely be practised for the purpose of determining the relations of abdominal tumors, and never in cases of adherent intra-pelvic growths, whether tubal or ovarian.

II. **Downward Displacement of the Uterus in order to Render the Field of Operation more Accessible.**—It is important to distinguish at the outset actual traction upon the uterus with the volsella from mere steadying of the organ with the tenaculum. This is not made clear in any work to which I have had access. Yet the distinction is a vital one. There is a great difference between holding the uterus at, or near, its normal plane, and dragging the organ down to the vulva. This extreme traction not only renders the parts more accessible during the removal of intra-uterine growths, trachelorrhaphy, amputation of the cervix, or vaginal hysterectomy, but also sensibly diminishes the hemorrhage by diminishing the calibres of the tortuous uterine blood-vessels, as was long pointed out by Dr. Emmet. The question is whether these advantages counterbalance the dangers. These dangers may be stated briefly as follows:

1. Overstretching of the already relaxed supports of a heavy uterus by prolonged traction, so that they do not recover their former tone. This is not entirely theoretical.

2. Overstretching and tearing of peri-uterine adhesions, thus setting up fresh inflammation.

3. Injurious traction upon a pyosalpinx or abscess of the ovary, causing rupture of the same with escape of its contents into the peritoneal cavity; or, setting up a fresh peri-oöphoritis or perisalpingitis, thereby greatly aggravating the existing trouble.

It may be objected that no careful surgeon would exert undue traction upon a uterus which is fixed by old adhesions, or when an adherent tube or ovary can be felt. But with the patient thoroughly anæsthetized, the parts become so relaxed that even a moderately adherent uterus may appear to be freely movable, while we are deprived of a most important danger-signal, the expression of pain by the patient. Cases are on record in which fatal peritonitis has followed traction upon a supposed mobile uterus.

Now, the writer does not make these statements unadvisedly, since during the past winter he has seen several well-marked cases of serious pelvic inflammation following excessive traction upon the uterus during operations upon the organ. For obvious reasons, cases of septic infection are excluded from this number, so far as it is possible to do so; pure traumatism, not sepsis, seems to be the etiological factor.

It is practically impossible (outside of a private hospital) to keep a patient under preparatory treatment until every vestige of former inflammation has disappeared, before performing an operation upon the cervix. The fact is that all of us do, and must, operate sometimes when the uterus is not freely movable, or when perimetric indurations, ovaries, and even tubes, can be felt. The writer does not propose to discuss the advisability of repairing a lacerated cervix when the uterus is retroflexed and adherent; personally he is opposed to it, not so much on account of the immediate dangers, but because the operation does little or no good, since the patient's condition is practically the same as before. The cervix "looks better," that is all.

To return to the subject of complications resulting from artificial prolapse. Within the last five months the writer has noted the following cases of periuterine inflammation, apparently due directly to traction during operations:

Case I. *Laceration of the Cervix.*—Uterus fairly movable. Prolapsed right ovary (or tube?). Excessive traction during operation. Acute perimetric trouble on right side, so severe that patient's life was despaired of. Pelvic abscess developed and was incised. Protracted convalescence with permanent induration at the site of the abscess.

Case II. *Retroflexion with Partial Fixation; Stenosis of the Cervical Canal.*—Divulsion and stem inserted. No febrile reaction, but patient had pain in right side on recovery from ether and developed a small pelvic abscess to the right of the uterus, which is gradually becoming absorbed.

Case III. *Laceration of the Cervix and Perineum.*—Uterus prolapsed, but retroflexed and somewhat adherent. Under ether the uterus was so freely movable that the cervix was drawn down to the vulva and the laceration repaired with unusual ease, perineorrhaphy being performed at the same sitting. Patient developed a low form of perimetritis, which considerably prolonged her convalescence and left her worse than before the operations, both of which were fairly successful from a cosmetic stand-point.

Case IV. *Epithelioma of the Cervix.*—Enlarged and adherent ovary behind the uterus. High amputation under rigid antiseptics, according to Baker's method, during which the uterus was drawn forcibly downward with a volsella. Acute oöphoritis and peri-oöphoritis, which, though localized, gave rise to alarming symptoms and retarded convalescence. Perfect recovery, but uterus less movable than before, and ovary remains quite tender.

Case V. *Epithelioma of the Cervix.*—Prolapsed left ovary, with history of left-sided parametritis a few years before. High amputation was done, the uterus being drawn downward as far as possible. On account of hemorrhage from the uterine arteries it was necessary to extirpate the entire organ, which was done without difficulty. Tubes and ovaries adherent and not removed. Parametritis on left side appeared during the first week and the patient narrowly escaped with her life and an induration which extended parallel with Poupart's ligament, and did not disappear for a couple of months. Sepsis carefully excluded. The patient (who is now quite well) said that this attack was exactly similar to the former one.

Examples could be multiplied, but the above are sufficient to illustrate the complications which may arise from strong downward traction upon the uterus, when the organ or its adnexa are adherent. The writer has seen masses appear within the pelvis so soon after operation that the inference was that they were hæmatoceles or hæmatomata due to the rupture of vessels in the broad ligament, whether from the rupture of adhesions or not could of

course not be determined. Now, is this excessive traction upon the uterus—and this is what we mean by artificial prolapse—necessary? Rarely. It is the best test of a skilful operator that he does not find this aid necessary. Of course in high amputation and total extirpation it is necessary to make more or less traction with a powerful instrument in order to render the parts more accessible, but it is not necessary to drag the cervix down to or through the vulva (as a German writer advises), with total disregard of the presence of perimetric adhesions. In cases of trachelorrhaphy artificial prolapse should be practically unheard of. It is sufficient to merely steady, not to drag down the cervix. This is the caution which the writer invariably gives to any assistant, no matter how movable the uterus may be; he not only teaches, but he practises it. To maintain the uterus in its normal position is sufficient; the operator should not seek to supply his lack of skill or unfamiliarity with gynecological operations by dragging the organ down to the vulva at the risk of setting up inflammatory trouble. Fixation, not traction, is what we should aim at. The ordinary tenaculum is not, in the writer's opinion, the best instrument to employ for this purpose, since it frequently tears out, lacerating the mucous membrane and requiring to be frequently readjusted; the double tenaculum, devised by Dr. Hanks, is admirably adapted for steadying the uterus without changing its position during the entire operation, while it is not sufficiently strong to tempt the surgeon to employ it as a volsella.

Before leaving the subject the writer would call attention to the result of excessive traction during trachelorrhaphy which he has frequently observed at the operating table. By drawing a short cervix forcibly downward it is apparently elongated so that an inexperienced operator might run considerable risk of cutting through the lateral fornix and opening up the subperitoneal space. A pelvic abscess might readily follow this mischance. The writer had such an experience in his first trachelorrhaphy. This mistake is common with the beginner, as he has frequently had occasion to observe in teaching operative gynecology.

In conclusion the writer would again emphasize the importance of distinguishing between fixation and downward traction upon the uterus, the dangers of the latter, and the fact that the advantages of artificial prolapse do not, on the whole, compensate for the risks incurred. As an aid to diagnosis it should be allowed to fall into "innocuous desuetude," and in operations it should be practised as a measure of necessity, rather than of convenience. As Mundé says: "It is evident that this method should never be employed needlessly, and only when the examination or operation cannot be as well performed with the uterus *in situ*."

THE CAUSES AND THE REMEDIES FOR SUITS FOR MALPRACTICE.[1]

By F. J. GRONER, B.S., M.D.,

BIG RAPIDS, MICH.

When this Society was divided into sections to facilitate scientific work, the new constitution provided that each section elect a member "whose duty it shall be to deliver an address before the Society in general session upon some subject pertaining to the department by which he is chosen." My predecessors have given such a complete account of the recent advances in surgery that I deem it not proper to traverse the same ground. The first address, "Surgery as an Art and a Science," was delivered by Dr. George E. Frothingham. Dr. Herman Kiefer delivered the second, "Surgery within the Last Fifty Years." These addresses are so able, so thorough, and cover the ground so completely that I feel compelled to seek another theme.

I shall depart from the almost routine precedent of every surgeon who has an address to deliver, and every president's address from a county society to an International Medical Congress, of heaping one round of eulogium on the surgeon. I wish simply to call your attention to something that is already known—not to something new.

I have gathered my information from various sources, and have tried to give proper credit. It is a subject in which all practitioners are interested, and surgeons in particular. The subject was very forcibly brought to my mind after spending my best skill on a young man who received a severe injury from a falling tree. The patient recovered, but one arm was paralyzed. A few months after the accident the patient and a guardian stepped into my office and said, "The arm was not set right, and you have to pay." Probably you can anticipate my feeling when I say I was young then.

Aside from the "beauties of the profession," the learning, the skill, the self-sacrifice, and even life itself freely poured out for unfortunate and injured humanity, you not only very often reap ingratitude, but you are confronted with suits for malpractice. Storms and even cyclones are necessary to progress. They purify the atmosphere and encourage wholesome growth; but we are inclined to believe that the criticisms and cursings are sufficient without the annoyance and expense of a suit at law.

It is said "there is no country in the world in which physicians and surgeons are embarrassed with suits for malpractice except England and the United States." The Western States enjoy an unenviable reputation in this respect. The medical profession is held to a stricter accountability before the law than any other class. Suits against corporations, lumber companies, railroad companies, and against physicians are pursued to an alarming extent. They appear to be especially epidemic in Michigan and some of the bordering States. The question for us is, What is the cause, and what is the remedy? Can we suggest proper treatment? The cause is undoubtedly greed for a fat remuneration. They are instigated by avarice, or they are undertaken to gratify some feeling of personal enmity. The ablest men of the profession have been obliged to defend themselves in these suits. There is scarcely a surgeon of any great experience in this State who has not either been prosecuted or many times threatened. I know of cases of injured reputation, financial embarrassment, and even mental wreck from the harassings of malpractice suits. It has been stated that some eminent practitioners of skill and wealth have avoided surgery, leaving it to men who had less reputation and less money to lose.

Dr. Hamilton tells us of a surgeon in Vermont who was prosecuted many years, in a case in which the plaintiff claimed damages on the ground that his wife had been treated for a fracture, and confined to her bed for several months, when no fracture existed, nor did the case leave the courts until the doctor had lost his property in the protracted defence—not, indeed, until the death of the woman enabled the defendant to show the broken bone as proof that he had judged and practised correctly.

You will find a very large percentage of suits for malpractice are brought by that species now denominated "crank." Many are dogged on by some shystering lawyer who is to receive half of the profits. Sometimes reputable lawyers are induced to take such cases by being deceived in the information the plaintiff pretends he can produce. Very often there is some Judas in the form of a professional rival who has first suggested a suit for damage.

The medical profession is held to a stricter accountability before the law than any other class. The general laws defining responsibilities and regulating practice are the same in regard to every profession and art. Why are we to be held exceptionally accountable? Why are lawyers not prosecuted for giving bad advice, which leads to defeat and disaster for their clients? Why not prosecute clergymen for malpractice? Their notorious omissions of duty, their multiplicity of creeds and doctrines, their multiple expositions and interpretations of the Divine

[1] Read before the Michigan State Medical Society, and printed in this journal with the consent of the Society.

word, their jealousies, differences, and contradictions must send many souls to perdition. Almost all educated physicians are agreed upon the management of a surgical case. It is not so in law. The opposing counsel give conflicting opinions. One must be wrong. They are often wrong in points of law. But you do not hear of suits of malpractice for these errors of opinion and practice. It certainly cannot be said that the surgeons in this country are not as thoroughly educated and as well qualified to practise their profession as the lawyers are to practise theirs. You all have had threats of suits for alleged malpractice by dead beats, when you knew it was only their favorite mode of cancelling their obligations for medical and surgical attendance. You are familiar with the poet's lines:

> "God and the Doctor we alike adore,
> But only when in danger, not before;
> The danger o'er, both are alike requited—
> God is forgotten and the Doctor slighted."

The manner of getting up these prosecutions you are quite familiar with. Certain members of our profession, that are allowed in the profession by practical absence of law, denominated quacks, or inferior, mischief-making physicians, detested by the profession and by all honorable men, and unrecognized by those whom they seek to imitate; conscious of their own inferiority, instead of trying to elevate themselves they attempt to drag others down. Jealous of those they cannot rival, they sow discord among their rivals' patrons, condemning the result of labor they dare not attempt to perform. Thus too often the seeds of dissatisfaction or distrust are sown among those who have been the subjects and recipients of surgical and medical treatment. How easy it is for such fiends, with their cunning ways and oily tongues, to make many patients believe that they have been subjected to some great wrong; that their broken and mangled limbs might have been in much better condition, their enfeebled health restored, had the skill and wisdom of the knaves themselves been put into operation at the proper time; when the plain facts are, their limbs have only been saved from being amputated by almost superhuman efforts, and by great skill the patients have been snatched from death's door. The pretenders will say, "Sue for malpractice." A new idea strikes the patient. Though the limb is much better than any reasonable man could have expected, yet it is not better than the uninjured one. Then to help matters along certain members of our profession have their counterpart in the legal profession, and a class of lawyers without respect or honor at home or abroad are anxious to engage in any meanness or rascality. They will prosecute for a percentage of the stolen booty; and if the evidence is not strong enough to convict they have a happy faculty of manufacturing to order such as is required. It is a just reproach that such persons are permitted to practise in the courts. The present age, with the exigencies of modern rascality, has brought into being the barnacles, vultures, and cormorants of both learned professions. I have no charge to bring against gentlemen of the legal profession. No one apppreciates their great and good work more than myself. Their calling, like our own, demands the exercise of the highest faculties of man. I only allude to those who abuse their privileges.

Surgeons should be held strictly accountable for want of skill, or for negligence in the performance of their duties. We must remember that the principles of surgery cannot be fixed and permanent, they must advance with the progress of science. The science and practice of surgery has advanced to a degree of perfection beyond the most sanguine expectations of the past generation. There can be no fixed limit to the qualifications of the surgeon, for the required knowledge and skill rises in proportion to the value and delicacy of the operation. Every case necessarily has its own peculiarities, therefore, there can be no universal standard of treatment established.

The degree of care bestowed on each case must be such as surgeons of common prudence would employ. There is no standard of comparison by which to determine what is ordinary or reasonable care, but each individual case must stand upon its own merits (Hilliard). In the care of any case the surgeon must conform to established precedent, and be diligent in the application of remedial measures. Conformity to established rules of practice has from the earliest periods been rigidly exacted. It is held that any deviation from the established practice shall be deemed sufficient to charge the surgeon with malpractice, in case of an injury arising to the patient. This rule is designed to protect the community against reckless experiments, while it admits the adoption of new modes of treatment only when their benefits have been demonstrated, or where from the necessity of the case the surgeon must be left to the exercise of his own skill and experience (Stephen Smith). The possession of the requisite qualifications and failure to employ them sedulously for the benefit of the patient is negligence, and negligence is as much a fraud upon the employer as want of skill, for it is upon the diligent application of skill that the problem of success must rest (J. Ordronaux). It is held that whenever any important step in the treatment of disease is neglected, or any important stage of it overlooked, which might have been used for the benefit of the patient, then it may be averred that the surgeon has been guilty of negligence.

The law that covers pretty generally the points in a case of malpractice is found in Hilliard's "Law of Torts," second edition, vol. i., p. 253.

I am not here to defend quackery. Men practise in this State without learning, culture, or character. Please remember that wherever there is an immoral or incompetent practitioner of medicine or surgery, he is there in defiance and in spite of the protests of the medical profession. It is the leading and wealthy men of the profession who are usually the targets for maligners. I read of one exception, however, a famous Dr. Walters, living in a neighboring State, a noted botanic or rutabaga doctor, told fortunes, etc. A wealthy lady was placed in his care by her husband for treatment, the doctor being so kind as to let her board in his family. After trying various remedies, all alike failing, he discovered she was bewitched. There was but one way, he gravely informed her, that the witches could be cast out; she submitted, but told her husband, who objected to the treatment and sued for damages, and the learned doctor was assessed $1,000, which he paid. But, as the story goes, that husband forever after discouraged the casting out of witches.

Of the many phases of superstition which have attained proportions that render them worthy of critical scrutiny, there is none so dangerous as that which makes its possessor the facile subject of conscienceless quacks and death-dealing frauds. Few persons dream of the extent to which quackery is practised, or the hold it has upon many men and women who, one would imagine, were far above its influence. Only a few exceptionally atrocious cases are brought to the notice of the public, the obscurity of some of the sufferers, the reluctance of others to acknowledge that they ever have resorted to such irregular sources, serving as safeguards for the charlatans who torture them.

Where ignorance and conceit are the doctor's only outfit society should be afforded some effectual protection—something better than our present State law.

Physicians are no worse than any other men; the same principles of justice which regulate the responsibilities, liabilities, and duties of other individuals, should be applied to them. If he undertakes to perform the delicate duties which pertain to his profession without due preparation, and fails to bring into requisition available knowledge and skill, or if he wantonly injures, or neglects those entrusted to his care, he should be held accountable for the results. It would be a good deal better for all concerned if the ignorant, immoral, and unfaithful should be

restricted by law from engaging in practice. Ignorant men and women, and even some whose judgment on other matters is good, cannot discern between the quack and the physician. Let us have laws to aid them in their discrimination. There should be an end put to the unjustifiable lawsuits against skilful, attentive, and humane physicians. In order to protect the profession the persecuted member should not be allowed to suffer. The profession in any neighborhood cannot afford to allow a verdict to be taken against a defendant. It is very certain that they cannot convict without expert evidence, and they must call on the medical profession for that. The members of the medical profession should always stand by each other, then the benefit of the doubt can be given to the right side.

"Where a surgeon undertakes to treat a fractured limb, he has not only to apply the known facts and theoretical knowledge of his science, but he must contend with very many powerful and hidden influences; such as want of vital force, habit of life, hereditary diathesis, climate, the mental state, local circumstances, and a thousand other agencies. . . . These latent conditions often render the management of a surgical case difficult, doubtful, and dangerous; they are all potent causes, frequently having greater influence in the result than all the surgeon may be able to accomplish" (Elwell).

If the patient does not follow the prescriptions, and co-operate with the surgeon, he cannot afterward call the surgeon to an account for any unfortunate result that may attend the case.

In the case of McCandless *v.* McWha, the Supreme Court of Pennsylvania, said: "Nothing can be more clear than that it is the duty of the patient to co-operate with his professional advisers, and to conform to the necessary prescriptions; but if he will not, or under the pressure of circumstances he cannot, his neglect is his own wrong or misfortune, for which he has no right to hold his surgeon responsible. No man may take advantage of his own wrong, or charge his misfortune to the account of another."

The charges in the indictment are ignorance and unskilful treatment, or negligence. The law requires of a man who offers his services in any profession three things: That reasonable degree of learning, skill, and experience ordinarily possessed by others of his profession; reasonable and ordinary care in the treatment of the case committed to him; and the exercise of his best judgment in cases of doubt. A diploma is the best evidence of this degree of attainment; but, to be valid, it must be proved that the college from which it emanated had corporate authority to grant degrees in medicine at the date of giving the degree, and if the college of another State, its act of incorporation must be offered as proof of its authority to grant such a degree (Hunter *v.* Blount, 27 Georgia, 76; Hill *v.* Brodie, 2 Stewart and Porter, 56).

We may lay it down as a rule that the surgeon always does the best he can for the patient, be he rich or poor. No practitioner would be foolhardy enough to do otherwise. The charge of negligence is seldom sustained.

In the case of McCandless *v.* McWha, 22 Penn., 261, Woodward, J., says: "The implied contract of a physician or surgeon is not to cure, to restore a fractured limb to its natural perfectness, but to treat the case with diligence and skill. The fracture may be so complicated that no skill vouchsafed to man can restore original straightness and length, or the patient may, by wilful disregard of the surgeon's directions, impair the effect of the best conceived measures. He deals not with insensate matter, like the stone-mason or bricklayer, who choose their materials and adjust them according to mathematical lines, but he has a suffering human being to treat, a nervous system to tranquillize, and a will to regulate and control."

The doubts and uncertainties that constantly embarrass the surgeon are understood and appreciated by the intelligent, and the errors and mistakes to which they are thus unavoidably exposed may well furnish, in many important cases, a satisfactory explanation and excuse for any unfavorable results, which, upon their face, may appear to involve want of skill or knowledge.

In the case of Courtney *v.* Henderson it is shown that an error in judgment is not malpractice. "An error in judgment in a man skilled in a particular calling is not malpractice, unless it is a gross error. But an error in judgment in a science of a man unskilled in that science (if such a thing can be) is malpractice. In other words, a person attempting to practise in physic or surgery, without first having obtained a knowledge of such science, is liable for all the damage that is the result of his practice."

A large proportion of suits against surgeons arise from the treatment of fractures and dislocations. Frank Hamilton has ascribed the cause to the physician himself. He says: "We not only believed, but constantly taught, that we were able to make broken limbs more perfect than we actually could make them. We greatly underestimated the difficulties of diagnosis and of treatment in both fractures and dislocations. In my early days I was disposed to lay most of the blame upon lawyers. I supposed that a certain class of pettifogging lawyers hunted up these cases and incited the people to prosecutions. But I have changed my mind on this point. Perhaps they are in some degree responsible, but I am convinced that the responsibility rests mostly with ourselves. Many writers upon surgery and most practical surgeons have claimed too much. They declared that they could do many things which they could not, and their patients have simply taken them at their word, and required of them damages when they have fallen short of their own claims and promises."

One of the most valuable contributions ever made to American surgery is Dr. Frank Hamilton's series of papers on "Deformities after Fracture," published in the "Transactions of the American Medical Association" for the years 1866, 1867, 1868. We now know the usual amount of deformity in cases of fracture when treated skilfully. But every little while some surgeon comes out with a new method or new apparatus for treating fractures, and usually claims that his results are invariably perfect. We are still unable to make perfect femurs in all cases, or perfect clavicles. In fact, imperfection in all forms of fractures is still the rule, and perfection the exception. Holthouse says: "Surgeons are still to be found hardy enough or ignorant enough to repeat the fallacies which have been so oft refuted, and to vaunt their success in the cure of oblique fractures in the adult without shortening. Why do not these surgeons, instead of publishing their cases in the journals, produce their patients at some of the medical societies?" There must ever be differences of opinion in matters so difficult as the investigation of surgical cases. Conflicts of opinion on certain points are creditable to the independence of thought and the individual self-reliance that characterize professional opinion (Erichsen). However, it is not creditable to ascribe impossibilities to the surgeon, and some of our leading authorities attribute many of the prosecutions for malpractice to surgeons promising too much.

It is well to remember that in all suits for damages for bad results fraud on the part of the claimant is quite a common item in the legal investigation. The medico-legal aspect of a case depends on three things; careful prognosis, good witnesses, and careful records. Your prognosis will largely influence your patient's desire to bring the matter to trial. If the doctor is disappointed in his result, some one will suggest to the patient that he was incompetent or negligent. Too often the doctor has not given a correct prognosis, inasmuch as no one can promise a good result from any fracture. The physician may expect a good result and may so promise the patient, but if he is wise he will not do so. He should always let the patient know of the many possibilities of bad results from any fracture—erysipelas, inflammation, necrosis, non-union, anchylosis, shortening, etc. We are justified in showing up the worst before the patient, not with the

idea of winning great credit by a marvellous cure, but as a matter of self-protection. The prevention of suits for malpractice depends less on a surgeon's skill than on his ability to summon witnesses when it comes to trial. In treating a fracture, no matter how simple or how sure you are of a good result, have witnesses. You need an assistant in reducing a fracture. And if you are able to bring good witnesses, patrons and lawyers will be deterred from bringing suit against you. You should keep a perfect record of the case—details of examination, diagnosis, dates of occurrence and examination, names of witnesses, etc. All data should be preserved, for in case of suit they will be valuable.

The law does not require the highest degree of skill and science, but only such reasonable degree as will enable the person safely and discreetly to discharge the duties assumed. The failure of a course of treatment is not by any means conclusive of the want of professional skill by the practitioner; as such a rule would be harsh and unreasonable in application to any art or profession, and endanger the most faithful and the best informed.

We feel that a great and learned profession, whose charity knows no limit, should be protected from suits inspired by fraud, ignorance, and malingering. It has been suggested as a remedy that those physicians implicated are entitled to the sympathy and assistance of as many of their professional brethren as may be necessary to sustain them. And unless it is possible to avoid it, let not a member of the profession be found in the ranks of the prosecution. Professional sympathy, however, will not remedy the evil.

Elwell says: "The only effectual and permanent mode, it is believed, by which the evil can be reached, remedied, and guarded against, is by elevating the standard of medico-legal knowledge in the professions of law and medicine. It is not to be denied that members of the legal profession, with few exceptions, are imperfectly informed upon medical questions connected with law, though they may be well educated in law generally."

David Paul Brown said: "A doctor who knows nothing of law, and a lawyer who knows nothing of medicine, are deficient in essential requisites of their respective professions."

Prosecutions for malpractice occur so frequently that no surgeon, however respectable or eminent, has the assurance, in all his cases, that he will receive either gratitude or reward for his patience; indeed, the more he is informed upon the history and calamities of surgery, the more he fears for the results of his surgical practice.

One way to avoid the annoyance of these suits is to be honest with patients. Do not claim more than you can perform. If such suits do come they should not be compromised. It is unjust and only encourages others to institute them. The best legal talent and the best experts the country offers should be secured. If juries who cannot understand the many causes of failure of surgical cases find it easier to blame the doctor than the constitution of the patient; judges, whose duty it is to review the case, and whose function it is to sift evidence and to judge equitably, will probably remedy the evil by granting a new trial, which is equivalent to a verdict in the doctor's favor.

The most important measure for preventing such suits is to have a law compelling the plaintiff to give bonds to remunerate defendant a certain percentage of amount for which suit was brought, providing he fail to sustain his case. This was done in the case of Walsh *v.* Sayer, where an action was instituted to recover damages in the sum of $20,000. The court gave judgment for defendant in five per cent. of the sum of $20,000, as an extra allowance, in addition to his usual costs.

I would suggest as the most effectual method of remedying unjust prosecution that the members of the medical profession co-operate with corporations, lumber companies, railroad companies, and all classes who are harassed with unjust suits and get a State law compelling every person instituting such suits to reimburse defendant twenty-five to fifty per cent. of amount of damages claimed in case plaintiff failed to sustain his case. This will prevent ninety per cent. of these senseless prosecutions. If this cannot be accomplished, or seems too harsh, then let there be a statute compelling those who seek remuneration to submit the case to three disinterested physicians, who on investigation, will determine whether there is cause for complaint.

"A profession should be protected that has for its object and end the accomplishment of great good, assuaging of pain, physical and mental, the lengthening out of a precious life, a profession that has produced, in all ages, able self-sacrificing men, and now has within it as noble examples of moral and intellectual manhood, possessing substantial knowledge and practical skill, as ever blessed our earth" (Elwell).

In conclusion, I will say if you expected to hear a triumphant record of the marvellous progress of surgery, or a pæan on my own local surgical achievements, you are disappointed. But I trust that my humble effort at this interesting theme will be of wider interest and of more general benefit.

INFECTIVE PHLEBITIS AS A SEQUEL TO FOLLICULAR TONSILLITIS.

By JOHN TRUMBULL, M.D.,

VALPARAISO, CHILI.

Believers in antiseptic surgery found their practice on the belief that suppuration is always due to the presence of certain microscopic organisms, which by spray, irrigation, asepsis of instruments and operating hands, drainage, and dressings, they have sought to exclude or deprive of the fluids in which they might multiply. Methods for securing cleanliness, in its broadest sense, may vary with every operator, the spray be set aside, irrigation with chemical disinfectants or germicides be supplanted by the use of pure water, but the aims of Listerism to exclude germs hold good.

In operative procedure surgical thought would certainly say that without septic bacteria suppuration does not take place. And if the logic of surgical experience and biological research be legitimately carried out, we must concede that such bacteria are essential to the formation of matter anywhere in the body. As Rindfleisch, Birch-Hirschfeld, Klebs, and others have shown, where pus is formed infective microphytes exist; and if this process begin within the circulatory system, or elsewhere, it is our task to seek to discover how and why they are there.

Pyæmia in the main belongs to the domain of surgery, but is occasionally met with in internal medicine. Such cases become doubly interesting to those who are compelled to regard them as dependent on an infection arising from the presence within the body of certain micrococci. To explain septic fever, infective thrombi, and secondary abscesses, the existence of septic bacteria is assumed. These generally have gained access, first to, and then through, some wound. With pyæmic symptoms one naturally looks, therefore, for a breach of surface. Failing this, communication with the exterior of the body is generally found in connection with the local diseases which occasionally give rise to pyæmic infection in medical practice. In the pyæmia that follows parturition, that has its origin in diseases of the urinary tract or those about the alimentary canal, or in carious disease of the bones of the ear, the various channels of communication with the exterior of the body, in these cases, account for the possible presence of infective microscopic organisms in the point of departure for the general process. But those cases which post-mortem examinations set down as having their origin in disease of the bony framework of the body, or within the vascular system, are more difficult of explanation. Both of these latter, one would expect, must depend on the presence of septic germs in the

blood; for where a general infection starts from an acute osteomyelitis or abscess of a bone, it can only be through the vascular system that the infective microphytes reach their chosen field for colonization. That being so, the question resolves itself into accounting for the presence of these offensive germs in the blood alone. Koch says that "never, in a single instance," has he found micro-organisms in normal blood, and concludes therefore that they are not present. Still, if present in an abscess of the liver, they must have reached that organ through the blood-vessels, even though an examination fail to disclose any circulating in the blood. But if that which makes possible a purulent focus in the liver, or tibia, reached its nidus from the blood circulating about it, we must grant that these germs can pass through the capillary walls. Klebs has traced the progress of gogglöa not only through the interspaces of the cellular tissue, but has found them penetrating through the eroded wall of a vein. This is only a step from conceding that through the pulmonary tissues they may likewise pass into the body, and the occasional occurrence in chronic valvular disease of ulcerative endocarditis after pneumonia, points to the presence of septic micrococci in the blood, whose entrance was effected through the pulmonary tissues in a disease attributed itself to infection. Whether ordinarily, along with the interchange of gases, the different microphytes pass through the alveolar tissues and capillary walls, one is not in a position to claim; yet their presence in the air-cells, and readiness to avail themselves of every opportunity, would seem to be shown by the well-known fact that croupous pneumonia occasionally follows traumatism of the chest, when, as may be supposed, the injury weakens the resistive power of the tissues against germs already there, or almost immediately received and harbored. The general infection which so universally follows exposure to certain specific diseases, in those whose immunity is not assured by having been already attacked, points often to the same method of infection. How else can one explain the facts, testified to by Murchison and other observers, of typhus following immediately on exposure, where "the patient having been conscious of an offensive odor proceeding from a case with which he had come in contact, was at once attacked with headache, prostration, nausea, rigors; and all the other symptoms developed in due course?" Authentic outbreaks of typhoid fever plainly show that the causative agent is carried by currents of air; and small-pox, scarlatina, measles, whooping-cough, etc., are undoubtedly thus transmitted, and probably enter through the pulmonary tissues or some portion of the mucous tract of the organs of respiration or alimentation. And if the germs of these specific diseases can thus find the portals admitting them to the precincts of the body, we can scarcely decline to recognize that thus the intruder bent on septic mischief may gain admittance.

While the respiratory tract does not seem to require any appreciable breach of surface to permit of parasitic organisms securing a passage into the human circulation, the skin, so far as we know, does. If whole, it is protective; but once broken, it offers a ready port of entry to obnoxious microscopic immigrants anxious to settle, and by their thrifty multiplication threaten the stability of the central forces of human life.

The mucous surfaces of the genito-urinary organs have a freer superficial circulation, and, I doubt, not often allow of infection without any erosion of surface. Syphilis is, I fancy, often planted where there is no scratch, and secures its footing in consequence of the active circulation accompanying erection. The gonococcus will pre-empt any urethral surface if given a chance of sleeping there over night to enable him to enter a claim next morning. Some may regard this as a purely local infection, though at times the febrile manifestations accompanying it would indicate a more general process, and the articular complications, with occasional pyæmia resulting at times in this disease, show what a urethral surface may expose one to; or the line of travel may be by extension to the bladder, ureters, pelves of the kidneys, and so lead to general septic infection. We therefore recognize the genito-urinary tract as offering abundant opportunity for septic infection from it as a distributing centre, or even, as in some cases, of malignant endocarditis, providing the requisites for the entrance of the streptococcus to light up infective foci on the curtains of the valves.

We still have to consider the mucous surface of the alimentary canal, and here we find that we have general specific diseases—colitis, enteritis, scarlet fever, diphtheria, and follicular tonsillitis—having an inherent right, as it were, to claim and occupy particular portions of this tract. The question frequently recurs: Do not these limited local inflammatory processes mark the site of entrance of these germs, as the indurated sore does that of syphilitic infection? But the germs that cause these diseases are not the spherical bacteria of suppuration; yet we find that all of these diseases (and, in fact, all which are classed as specific or infective) have, as complications or sequelæ, suppuration, localized now near, and again at some distance, and even directly or indirectly occasionally leading to pyæmia. In such cases organisms that occasion suppurative processes must have found an entrance into the circulation, and that probably through the site of these local manifestations. All are accompanied by breaches of surface somewhere along the tract of the organs of alimentation, and while these would favor the absorption of micrococci, the general lowering of tone found in all specific diseases provides ofttimes the nidus suitable for the cultivation of spherical bacteria. Abscess of the liver, so frequent in portions of Chili, can almost invariably with us be traced to an antecedent dysentery. Taking an average of five years, in the reports of various hospitals in this country, the mortality from abscess of the liver is 1.8 per cent.; that of dysentery 10.6 per cent. Liver abscess is frequent and to be expected where intestinal inflammatory troubles are rife, and the liver is congested by over-eating of highly stimulating and irritating substances, or by periodic excessive drinking, with subsequent exposure in a climate of marked changes between day and night temperatures. Santiago, in a few hours, has changes of temperature amounting to 20° to 25° C., and here we find the heaviest mortality. In two of her leading hospitals the average mortality from suppurative hepatitis is as high as five per cent. But it is rather the relation between liver abscess and dysentery that I wish to emphasize. This remains very constant. A rise in the curve of dysentery mortality is always accompanied by a similar proportionate rise in the liver abscess mortality, and *vice versa;* while pathological investigations confirm this view as to a causative relation, and intestinal ulcers, or cicatrices of such, are generally found. Attention is sometimes strikingly called also, in fatal cases of operation, by the reappearance of bloody dysenteric discharges.

The drainage from Peyer's patches being along the lymphatic spaces, and not to the liver, it is not surprising that typhoid does not lead to suppurative hepatitis; but enteritis has among its complications or sequelæ suppuration of the parotid gland, ostitis, and periostitis.

Scarlet fever often leads to otitis media, though here the Eustachian tube can explain extension to that locality, while the breaking down of glands in the neck and elsewhere must be explained in a different way.

We, alas, know too well the septic intoxication that accompanies diphtheria, though, even when it is not so overwhelming, yet after-troubles of a suppurative nature often manifest themselves.

The dividing line between this and follicular tonsillitis is very indistinct. Both I have found contagious and demanding seclusion to prevent spreading of the disease. The majority of cases are easy to differentiate, while at times, where follicular tonsillitis is not punctate, we have not always a film of easily recognizable pultaceous secretion, but what leaves one in serious doubt as to whether

the case be not one of true diphtheria, though it does not extend beyond the limit of the tonsils. The article of Dr. Boucsein, in a recent number of the *American Journal of the Medical Sciences*, clearly recognizes this as an infective disease, and mentions a number of sequelæ. He says also that "A. Fränkel calls attention to the possibility of general septic infection originating in the tonsil." What begins apparently as a follicular tonsillitis occasionally results in suppuration in or about the gland itself. In quinsy, therefore, we have the introduction of septic bacteria into the deeper or surrounding portions of the tonsils, and the absorption may then be along the lymphatic spaces; but the active local circulation, attested by the visible congestion of the parts, renders absorption by the blood-vessels possible and probable. If we recognize the possibility of entrance through such a track, abeyance of objective symptoms may be explained by the absence of a suitable nidus. Micrococci are indispensable, and as much so a base of operation. The two factors are requisite, and in infective diseases we not only have the opportunity of entrance given to the spherical bacteria, but, further, the lowering of the vital forces makes possible the second essential. I have seen pyæmia occur in carbuncle after the healing process had advanced so far that the thickly matted layer of cells which the microscopic section of a healing granulating wound shows to exist, would prove as effectual a barrier as an unbroken epithelial surface. It seems to me, in this and like cases, that entrance must have been gained before such a protective wall was built by nature; and that, having earlier sought and gained admittance, these septic bacteria retained their vitality until the chance of squatting and breeding an army to storm the citadel of human life was offered. Such, I take it, occurred in the accompanying clinical case, which is reported as a sequel to follicular tonsillitis. I can find no other solution of the question which at once presented itself: From where did this local inflammation receive its infective properties? The process began in the dilated veins, and thence extended to the surrounding cellular tissue, and scattered throughout the body groups of organisms capable of occasioning destructive processes wherever carried and lodged; but those germs which charged the original clots with forces capable of setting up infective disintegration probably entered the circulation through the tonsils, retained their vitality while travelling about the blood-vessels until the opportunity was given them to locate, multiply, undermine the constitution, and finally extinguish the life of the individual.

Mrs. C——, fifty-four years of age, suffered from "swelling of the feet and legs," the cause of which I was asked to discover at the beginning of 1889. There was no functional disturbance to be detected, and careful examination led to the exclusion of its dependence on cardiac, pulmonary, renal, or hepatic disease. From the birth of her first child she had noticed progressive enlargement of the veins, and both internal saphenous veins were found tortuous and knotted throughout their length. The local interference with the return of the venous blood was sufficient to account for the œdema; and measurements having been taken, elastic stockings were ordered from the States and received. These gave great relief, but she found them "cold," and against advice discontinued their use until the return of summer weather.

On September 9th I was called to see my patient for chilly sensations, which had been followed by high fever and severe pains in limbs, back, and head. A general examination again showed there was no abnormal condition of either the heart or lungs; but that she was down with follicular tonsillitis. This was unusually severe, but ran its course in four or five days, so that she was able to be about again, though feeling weak and miserable. Tonics were prescribed, and on the 17th, calling to see how convalescence had progressed, mention was made of several painful discolored spots in the left calf, which, she assured me, were like what she had had on the thighs a couple of years previous—erythema nodosum. She hardly thought them worth any attention but consented to my seeing them. On the inner side of the calf three or four of the bunches of dilated veins I found dusky, tender, and nodular. There was no induration or tenderness along the course of the saphena, so a local adhesive phlebitis, which might prove beneficial, being considered probable, rest in bed, with elevation of the limb and the application of lead-water lotions, was advised.

Early the next morning an urgent message reached me. The evening before a heavy chill had occurred, and when seen the patient had a flushed face with a bounding pulse of 120, and temperature of 39° C. She complained of vomiting, headache, and general malaise, with pain localized in the left calf, which was swollen, hot, and showed a cellulitis extending over a surface the size of the palm surrounding the dusky obstructed veins of the previous day. Antifebrile and tonic treatment, with the local application of poppyhead fomentations was begun at once. The husband was advised that she was dangerously ill, and a consultation was asked for, as, from fortunately having seen the trouble in its incipiency, a diagnosis of infective phlebitis, with general septic infection, was surmised.

September 19th.—Yesterday afternoon a second heavy rigor came on, followed by renewed elevation of temperature, quickened pulse and respirations, and marked depression. Prostration extreme, and only explainable on the basis of a general infection. Temperature continues high, unless brought down by repeated gramme doses of antipyrine. Tongue clean and dry, though vomiting continues. Examination of the chest discloses fine subcrepitant and moist râles in scattered spots over both backs. Complains of intense headache and deep-seated pain in the leg. The cellulitis is not extending, and free incisions were advised against, as probably the deeper veins could not be opened and general infection had occurred.

September 20th.—Yesterday another rigor. Temperature rose to 41° C. Acute pain in right shoulder and elbow followed, and continued throughout. Later on the ankle and smaller joints of the right foot became tender and acutely painful on the slightest motion, though without swelling or heat. To-day there is tenderness along the femoral vein, while the local inflammation shows no sign of increasing. The pulmonary mischief has extended. Dulness is now present over the lower half of both lungs, with bronchial breathing and subcrepitant râles, and added friction-sounds on the left. Left front also implicated. Respirations, 38; pulse, 120, failing despite digitalis, ammonia, and nux vomica; temperature, according to the use of phenacetin, between 38° and 40.5° C. Urine contains albumin, and is stained with biliary coloring matter.

September 22d.—Patient sunken in bed and unable to assist herself in any way. Aspect cyanotic, with pronounced jaundice of conjunctivæ and face. Dull of hearing. Temperature unaltered; pulse feebler and rising in frequency.

September 24th.—Condition rapidly changing for the worse in every way, though no new focus of infection has declared itself. Weakness is increasing, as shown by inability to void urine and involuntary dejections. Pulse varying but little; respirations increased to 44, and no cough present, even while the pulmonary foci are extending in area. Leg has become painful again, and the swelling since last evening, when it began, has doubled the size of the limb. Local condition demanding interference, yet the hopelessness of the case contra-indicated surgical procedure, as when it arose the temperature, after a chill, had fallen to 37° C., while the pulse continued upward to 160, the discrepancy between pulse and temperature indicating overwhelming poisoning.

September 27th.—For a couple of days from date of last note the temperature remained between normal and 38° C., and pulse fell to 136, still failure of forces and general insensibility deepened. Death to-day was quiet, after thirty-six hours of rising and falling of the thyroid, tracheal râles and heaviness passing slowly into stupor.

Clinical Department.

DRY GANGRENE IN A CHILD.

By T. C. WALLACE, M.D.,

CAMBRIDGE, N. Y.

In the MEDICAL RECORD for July 5th, the "Case of Dry Gangrene in a Boy Two and a Half Years of Age," by Dr. Kelley, of Winchester, Ind., prompts me to relate the following:

Georgiana G——, aged twenty months, had been quite sick for several days with measles, under the care of an intelligent practitioner, and was fairly convalescent. Early in the morning of April 12, 1886 (after a comfortable night), her right leg, up to and including the ankle, was found to be very cold. She lay in a crib-bed and it was thought she had protruded her foot between the slats from under the bedclothes. The leg was wrapped in a warm flannel and replaced in bed, and no more thought of the matter until, after a few hours, it was examined and found to be still cold. More energetic means of warming the limb were resorted to—friction, hot water in bottles, etc., but all of no avail. The child did not seem in any way worse, made no manifestation of pain, and appeared to suffer no discomfort. It was simply impossible to warm that foot, although every effort was made all the day and the succeeding night. During next day the foot assumed a livid hue, which gradually deepened in color. Next morning (April 14th) I was called. The limb was of death-like coldness up to and above the ankle, of a mottled mahogany color, darker at the toes and gradually growing lighter toward the ankle, where was a well-defined edge indicating, I thought, the future line of demarcation. I informed the parents the trouble was due to embolism (explaining that to them), and, excepting proper measures to strengthen the child, nothing could be done to remedy the trouble; that we must wait until the line of demarcation was clearly established, and that the foot would probably have to be amputated above the ankle. Next morning I found the big toe and the one next to it in a state of gangrene, and a large gangrened spot under the heel. The dark color near front of foot more profound. To my surprise, the color above and around the ankle was much more natural and the parts warmer, in fact of normal warmth. The embolus had either been forced further down in the artery, or the collateral circulation had become more established. It was then hoped that, except for gangrened spot under the heel, the heel itself might be saved by either Syme's or Pirogoff's amputation. In a few days all the toes underwent gangrene—true senile gangrene, dry, black, and odorless. This gradually spread until the whole foot nearly to the tarsus was in a like condition. The progress of the case was slow. The circulation about the ankle gradually becoming more active. After two or three demarcation lines were plainly indicated the true line at last formed, just anterior to the tarso-metatarsal joints, and on June 26th I amputated through those joints. Happily the gangrene under the heel included only the soft parts, and the periosteum was not involved. The stump healed satisfactorily, but *very, very slowly.* The child's physical condition was good throughout the whole progress of the case, and she put on a large amount of flesh. She has enjoyed uninterrupted health ever since. Doubtless, owing to the original embolism, the limb has never grown equally with its fellow. Its temperature is perfectly normal, but its contour is not so well developed, nor does it grow in length so fast. It is now seven-eighths of an inch the shortest.

This being the only case of so-called dry gangrene in a young child I had met with, in an active practice of over thirty-six years, convinced me of its rarity. Conversation with brother practitioners of extensive experience elicited the fact that it was equally novel to them, none having seen or heard of such a case. I wrote to the late Professor Frank H. Hamilton, and to Professor D. Hayes Agnew, who each replied they had never seen spontaneous gangrene in a young child. I searched every authority I could get access to, and aside from a general statement "that such cases are occasionally recorded in children under ten years," I could find but two cases recorded: "Pathological Society Transactions," vol. xx., an account of a case of gangrene in an infant aged eleven months. "The little patient was recovering from an attack of measles, when the left foot became black, hard, and dry; and on the thirty-second day dropped off at the ankle-joint, leaving the ends of the tibia and fibula protruding. A proper stump was then formed and the child made an excellent recovery." Holmes, last edition, vol. v., in describing surgical diseases of children, relates a fatal case in a child (age not given) just recovering from measles. It is certainly singular that these two cases, as well as my own, should not only have had the *measles*, but all three were *convalescing* therefrom. I also wrote a query to four medical journals, requesting anyone who knew of such a case to correspond with me. The only reply received was from Dr. Nickerson, of Meriden, Conn., who gave the following interesting history: "Three children in one family were almost simultaneously attacked by a severe remittent fever, accompanied, on the third day, by smoky urine which proved to be half blood. One recovered in a few days, without any troublesome sequelæ. One had acute Bright's with uræmic convulsions and a final subsidence of symptoms two years afterward. The third, a child of two years and four months, was seemingly convalescent. The fever had ceased, the urine was fast clearing up, and the child was sitting up in bed playing when I called in the evening. On my morning visit my attention was called to the toes on one foot, which I found quite black, or, in other words, dry gangrene; this rapidly extended up the leg and thigh, and before it died the entire limb, to the junction with the trunk, was perfectly black."

Dr. Nickerson and Professor A. L. Loomis were both of the opinion that the three cases just mentioned were primarily cases of ulcerative endocarditis.

REPRODUCTION OF BONE.

By R. W. ERWIN, M.D.,

BAY CITY, MICH.

OTTO N——, aged nine to ten, German parentage, healthy. About a year prior to his application for treatment he stepped upon a nail, causing a puncture-wound of the right foot near the middle of the sole. The puncture was superficial, and disappeared in a few days. Some weeks later soreness came on, and continued with intermissions to the time of his consulting me. Examination revealed a slight ridging of two lines in width by an inch or more in length over the fourth metatarsal bone. There was no swelling or discoloration of the foot, and tenderness only in moderate degree. The appearances were so negative that a doctor had diagnosed rheumatism and prescribed liniment. A free incision was made through the periosteum, October 7, 1887, with a view of relieving what was believed to be chronic periostitis. The knife penetrated the bone, and dry ostitis was found to exist—the bone being very brittle and soft. Poultices were ordered, and compound syrup hypophosphites prescribed. On October 18th, assisted by Drs. W. E. Vaughan and Ambrose, of this city, I enlarged the former incision and exsected the bone. It was very friable, and easily picked out with the fingers and elevator. When this was removed the adjacent metatarsal bones were discovered to be in the same condition. These were removed and the work continued till all the bones of the foot and ankle had been taken away, except the metatarsal of the great toe and the toe-bones (phalanges). To facilitate the opera-

tion a vertical incision was made over the os calcis behind. The periosteum was left in each instance, as far as possible. The exsection embraced the second, third, fourth, and fifth metatarsal bones, the cuboid, internal, middle, and external cuneiform, scaphoid, astragalus, and os calcis bones. The operation lasted a little over an hour, and when completed many little pieces of bone, the size of a pinhead to that of a grain of wheat, which had dropped off, lay in the wound. These were washed and brushed out as far as possible. Nature had made an attempt toward repair at several points among the tarsal bones, as evidenced by deposits of new bone—notably at the under surface of the os calcis. This was removed, since the separation could not be effected. The wound being cleansed as stated, was dressed by inserting longitudinally a large-sized drainage-tube, and the cavity about it filled with oakum saturated with balsam of Peru diluted with glycerine. The foot was then bandaged, using antiseptic gauze, and supported by a felt-splint. On the third day the oakum was removed, and replaced with fresh. The balsam was applied by pouring into the tube, and drawing it through the wound daily. This was prefaced with a thorough washing with listerine and warm water, and the gentle moving to and fro of the tube, with a view to cleansing the wound and getting rid of the small bone fragments. The parents were intelligent, and gave valuable assistance in this and the subsequent care of the foot. The pluck of the boy was not without advantage also. Ten days after the operation, all fear of septic trouble having vanished, a plaster-of-Paris splint was applied with fenestra about the drainage-tube. As time progressed the tube was reduced in size. At the end of five months it was removed, and a skein of carbolized silk inserted. Each day this was made fresh by pulling through and cutting away the soiled part. The quantity of silk was rapidly reduced, owing to absence of suppuration, to three or four strands, these being continued till the bone closed about them. The following June or July the last thread was removed. Recovery was complete, new bone having formed throughout. The plaster-splint was continued a few months longer, the boy walking upon the foot, supported by a crutch, the latter more as a check against accident than from need of support. Eighteen months have since elapsed, the boy running and playing with other boys upon the street, the foot being as sound, apparently, as ever. In that period neither pain nor swelling, nor other indications of trouble have appeared. There is some motion of the ankle, which will increase. The distance from the ankle to the floor is shortened, while the transverse diameter of the heel and tarsus is increased. The very slight shortening of the limb is scarcely perceptible in his walk, and might be relieved with a cork sole. He declines such aid, using an ordinary shoe in the heel of which he places a little padding.

Since writing the above his father reports the foot is perfectly sound, and free from any tenderness.

FLOATING KIDNEY.

By B. SCHEINKMAN, M.D.,

NEW YORK.

On June 9, 1890, I was called to see a patient suffering apparently from an attack of acute indigestion. After having failed to relieve the symptoms with my usual treatment, I submitted her to a more thorough examination, and on manipulating the abdomen I accidentally discovered a hard, oblong, and very freely movable tumor in the right lumbar region, on a line midway between the anterior-superior spinous process of the ilium and the umbilicus immediately beneath the abdominal wall. On a closer examination it presented the following features: it was about six inches in its long diameter and about three and a half inches transversely; kidney-shaped, its upper extremity being round and thick, while the lower was thinner and more conical in shape. I could grasp it with my hand so as to embrace over two-thirds of its posterior surface (through the abdominal wall). On slightly pressing it the patient felt a peculiar sickening sensation under the sternum, at about the cardiac end of the stomach, which she could not describe. The patient was a lady about forty-eight years of age, having had twelve children, of a healthy constitution, with a good family history. She told me she had noticed this tumor during the last eight years, it having first made its appearance after a confinement. She never paid any attention to it, as it never caused her any trouble, and would usually disappear for weeks after having been noticed for a day or two. From its very defined and accurate kidney-shape, and by exclusion, I am almost convinced that the tumor was a movable or floating kidney.

WOUND OF LEFT VOCAL CORD.

By F. SEMELEDER, M.D.,

CITY OF MEXICO.

This strange, and probably unique, case was lately observed by me. A wounded woman was picked up by the police and taken to the Municipal Hospital, where by the courteousness of Dr. T. Nuñez, the director, and Dr. Zarraga, I had the opportunity to see and examine her.

The woman had been stabbed with a stiletto which entered the left side of her neck, about three-quarters of an inch from the median line, between the hyoid bone and the thyroid cartilage. The wound was one inch long, and had all the characteristics of a cut wound, hardly any hemorrhage. The patient had an easy and speedy recovery, but she remained hoarse.

Laryngoscopical examination revealed an inflamed condition of pharynx and upper part of larynx, and a cicatrized wound, dividing in a transverse direction the left vocal cord, between its median and posterior thirds, near the insertion to the processus vocalis; this causes insufficient tension and imperfect occlusion, and is a perpetual cause of hoarseness, never to be removed.

Tumor of the Cornea in an Old Man.—At a meeting of the Ophthalmological Society of the United Kingdom, on May 1, 1890, Dr. Benson, of Dublin, reported a case of probable fibroma in a man seventy-two years of age. The tumor was attached to the upper portion of the left cornea of a blind glaucomatous eye. It measured 5 mm. in its longest diameter, 2 mm. in thickness It was adherent to the surface of the cornea above the centre by 2 or 3 mm. of its thin edge. The eye was said to have been blind for many years, but a few days before the patient came under observation he had knocked it against something, and since the blow had suffered intense pain. There was no evidence of recent injury to the eye. The growth was dissected off the cornea, and was found to consist of fibrous tissue with blood-vessels and cells, the whole being covered with epithelium, except at the margin, where it had been separated from the cornea. It had a dull, lustreless, gray color, and was lenticular in shape. The speaker referred to the great rarity of corneal tumors, and said that he could not discover the cause of the growth in this case.

Long and Hard Driving in Country Practice.—Dr. Charles T. Montgomery, of Glasco, N. Y., a typical general country practitioner, who is the popular physician for a wide district, drove in an ordinary buggy one hundred and seventy-three miles in forty continuous hours without rest save at meals. During this time he saw sixty patients and used only four horses for the work, driving them in pairs. Very few, if any, practitioners can equal this, and yet very many of our good friends in the country of large business have similar strains upon their endurance. Who can beat this record?

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, August 9, 1890.

THE INTERNATIONAL MEDICAL CONGRESS AT BERLIN.

So far as our cabled reports of the present or Tenth International Congress go, it would appear to have been an unqualified success. Of course, it is open to question whether, in a strictly scientific sense, much good ever comes of these huge and unwieldy medical gatherings. The true science of medicine is modest and of a retiring disposition. It likes to do its work in quiet corners. It makes simple announcements of the results of its labor. Not so with the frequenters and hangers-on of congresses. What would hopelessly disturb pure science, is the very life-blood and delight of pseudo-science. The former despises what the latter revels in.

Every congress thus far has suffered from the polyglot clamor of those who go to blow their own trumpets, those who are mere medical politicians, wire-pullers, open advertisers, brazen-faced priority-claimers, and a host of people who have their little axes to grind. True merit too often stays at home. Thus it has happened that important medical discoveries have never been first announced before the babel of these triennial mass-meetings.

But the consultation-hunters, the claim-everything-agents, the notoriety-promoters, the enterprising hob-nobbers, the "strictly-business" doctors, and those little fellows who so dearly love to rub up against the big fellows—these and others like them are always out in full force.

The real importance and undisputed popularity of international medical congresses are chiefly found in the social features that accompany them. The solidarity of our profession is thereby brought home to representatives of all civilized nations. And the world at large may be confidently invited to witness a demonstration of international good-will, which should go far toward fostering humanitarian, as opposed to warlike instincts. It is in these larger aspects that medical congresses deserve the encouragement of unflagging interest and serious attention.

In point of mere numbers, the Berlin Congress will have to take the first rank, nearly eight thousand physicians being in attendance. As to the relative value of the numerous papers read before it, judgment will have to be suspended until the fuller reports permit adequate comparison. A formidably large American, or German-American, contingent was present. But we miss among the numbers many of the names that we have reason to be most proud of. New York naturally sent the greatest number of physicians, and many communications were read by them in the various sections.

Although this will be ascribed to numerical pre-eminence alone, we may nevertheless feel justly proud of the prominence assumed at this congress by the leading city of the Western continent.

The banquets, entertainments, and excursions were not all that could have been desired by exacting ones. But the ruffianly stampeding that marred some of the Washington festivities was nowhere to be seen. All things considered, we may as well admit that "they do those things better in Germany."

A proposition to hold the next Congress at St. Petersburg, in 1893, was rejected, and the place of meeting decided upon was Rome.

THE EXECUTION BY ELECTRICITY.

THE lengthened agony of suspense regarding the efficiency of electricity as a means of executing criminals has been finally terminated in the legal killing of Kemmler. As was reasonably anticipated, death was instantaneous, and, so far as can be judged, the unfortunate subject of the experiment died without pain. The spectacle presented was, however, by no means edifying to such as hope for improvements of old methods.

Although science has triumphed, the question of the humanity of the act is still an open one. But shall we call it a triumph when the object obtained was the killing of a fellow-being? Heretofore the proudest claim of science has been to save, or at least to prolong, human life, and insure for its possessor the greatest enjoyment of its many bounties. In this instance it has been plainly diverted from its course, under a paradoxical plea of high humanity. And yet men of science have lent their best efforts in this direction to humor the whims of a few cranks and "world betterers," who imagined they could make legal murder a fine art, and enforce into it an element of sentimentality which might rob it of its atrocity.

While we allow that electricity has been a success as far as the killing is concerned, we must also admit that we have gained little, if anything, over the ordinary method of execution by hanging. The preliminaries of electrothanasia are far from pleasant to contemplate. Alongside of those for hanging they are pretentiously horrible. There is something more than weird in the preparation of the machine, the deliberate fixation of the victim, the adjustment of the electrode, and the "thousand deaths in contemplating one," which more than offsets the quick though damnable "taking off." The horrors, though hidden, are nevertheless felt. There is something else to be thought of than the mere quickness of death. While the latter might have been triumphantly done, the agony of the criminal during the preparations must be terrible as compared with that of hanging. It becomes a serious question if humanity is not paying too dear a price for instantaneous demolition. The awe and mystery of death are intensified a thousand-fold in anticipation of what this instrument of subtle power may do as compared with

either the noose or the rope, the grip of the garroter, the smart of the knot, the bore of the bullet, or the chop of the axe. And yet to harness the lightning and bolt it through a human body is thought to be one of the advances of the nineteenth century.

The experiences in the Kemmler case, in spite of all the precautions taken, have shown many difficulties in the way of a general adoption of the method. It is far from simple in its application. It requires elaborate and careful preparation; it multiplies machinery, which without expert manipulation is liable to fail in its working and bring about disastrous results; it may be a source of danger to the executioners and spectators; it increases the expense of executions; but, worse than all, in the necessary preparation of the victim there is crowded upon him in a few seconds an amount of horror and suspense which has no comparison with any other form of rapid demolition, save those of being thrust into the muzzle of a loaded cannon or tied to a dynamite bomb.

When it is assumed that the ends of justice and humanity are reached by the contrivance in question, and when it must be admitted that even this method cannot be divested either of cruelty or barbarity, the way seems to be open for the discussion of the abolition of capital punishment altogether.

From physical, humanitarian, and judicial stand-points, the time is ripe for its consideration. We venture to predict that public opinion will soon banish the death-chair, as it has done the rope, and that imprisonment for life will be the only proper punishment meted to a murderer. This is, indeed, the only rational method which science, justice, and religion can consistently recommend. The death-chair will yet be the altar from which this doctrine will be preached.

NON-MEDICAL CORONERS.

IT is a reproach to medicine that politicians are, as a rule, appointed or elected coroners while all their important technical work has necessarily to be done by physicians. The *Journal of the American Medical Association* upon this point says: "In Illinois all the evils of the political coroner are most pronounced, and, doubtless, any effort that may be made to correct them will meet with determined opposition from the office-holding class. The laws governing coroners in Illinois are but a prototype of those in a majority of the States; only a few having so far made any effort to reform this relic of the Middle Ages. The Chicago Medico-Legal Society nearly two years ago appointed a committee that submitted an able report summarizing the abuses of the present system and urging the adoption of the Massachusetts law."

Unfortunately, it will be necessary in this State to change the Constitution in order to get rid of the coroner system. But such a change ought to be made.

THE DOSE OF THE ALKALOIDS OF HYOSCYAMUS.

A REMARKABLE case of supposed poisoning by hyoscyamine recently occurred in Brooklyn. A patient suffered from alcoholism and its accompanying excitement and insomnia. He was prescribed, it is stated, capsules containing an eighth of a grain of amorphous hyoscyamine. Two doses were taken, the second one two hours after the first, and immediately succeeding the latter dose the patient began to show symptoms of hyoscyamine poisoning and he died in a few hours. It is asserted that the investigation showed that the crystalline hyoscyamine was used instead of the amorphous, hence the toxic effects. The drug-clerk who put up the capsules was arrested; by some mistake the body was embalmed, so that the autopsy showed nothing except, perhaps, a hypertrophic cirrhosis. It is also stated that the doctor's original prescription has disappeared. The drug-clerk asserts that he put up the medicine just as it was written and there is no proof to the contrary, except that of a circumstantial character.

Even if there were, however, it is doubtful if the drug-clerk could be made responsible. For there is still the greatest discrepancy in standard text-books as to the dosage of the various alkaloids of hyoscyamus. Brunton's work, published last year, makes the astonishing statement that the dose of hyoscyamine is from gr. $\frac{1}{60}$ to gr. 1. If a professor of pharmacology says this, what can one expect of a drug-clerk? Several text-books also say that amorphous hyoscyamine is identical with hyoscine; and this is a serious error. Yet even if it were true, cases are reported in which a dose of gr. $\frac{1}{8}$ of hyoscine has been given without serious results.

The great disagreement with regard to the dose and toxicity of the hyoscyamus alkaloids is shown in the following notes:

Lemoine (1889) gives the dose of hyoscyamine as gr. $\frac{1}{60}$ to $\frac{1}{120}$.

Doses of gr. $\frac{1}{40}$ and gr. $\frac{1}{10}$ have caused toxic but not fatal symptoms according to Drs. West and Thompson.

The dose of hyoscyamine is the same as that of atropine, according to Nothnagel and Rossbach.

The dose of hyoscyamine sulphate is gr. $\frac{1}{60}$ to gr. 1, says Brunton, in 1889.

Hyoscyamine has maximum dose of gr. $\frac{1}{3}$, according to Gnauck, 1881; that of hyoscine is gr. $\frac{1}{60}$.

The U. S. Dispensatory gives the initial dose of hyoscyamine sulphate as gr. $\frac{1}{60}$. That of hyoscine is not given.

The dose of hyoscine, according to Budder, in 1888, is gr. $\frac{1}{120}$.

According to S. Fischer it is gr. $\frac{1}{120}$ to $\frac{1}{60}$.

A dose of gr. $\frac{1}{8}$ was given by mistake without bad effects by Dr. W. H. H. Githens.

Dr. King has used hyoscine in doses of gr. $\frac{1}{120}$ to gr. $\frac{1}{60}$.

Toxic symptoms were caused by doses of gr. $\frac{1}{10}$ and $\frac{1}{15}$, also by a dose of gr. $\frac{1}{100}$ (Prentiss).

The maximum dose of hyoscine is gr. $\frac{1}{50}$, according to Dornblüth, 1889.

Cases of non-fatal poisoning from doses of gr. $\frac{1}{15}$, $\frac{1}{10}$, and gr. $\frac{1}{120}$ are reported by Drs. S. W. Morton, J. S. Gibb, and W. A. Edwards.

E. B. Potter thinks doses of gr. $\frac{1}{50}$ to $\frac{1}{15}$ are safe.

In all the above references nothing is said about amorphous hyoscyamine. This is a mixture of hyoscine with other substances, among them being a small amount of hyoscyamine. Its effects are more of a hypnotic character than the pure alkaloid and it has been extensively used in this city as a hypnotic. The dose is much larger than that of the pure hyoscine or hyoscyamine.

AN ANTHROPOMETRICAL STUDY OF PROSTITUTION.

THERE is a very prevalent opinion, and one upheld even by philosophical historians like Lecky, to the effect that prostitution is not only a necessary factor in society but a beneficent and useful one. Prostitution is the gutter through which the brute passions of man are drained away. It is as necessary to society as a sewage system, preventing foul vapors from invading the home. The prostitute is apotheosized as the savior of the family.

Without discussing the merits of this view, it would be well for the philosophers to study the interesting and curious work of Dr. Pauline Tarnowski, entitled "An Anthropometric Study of Prostitutes and Thieves." [1]

Dr. Tarnowski's observations cover a period of four years. They were made upon 150 professional prostitutes received at the Hospital de Kalnikine, and upon 100 female prisoners at Litowski Zamok.

Tarnowski's studies of the prostitutes lead him to the conclusion that the women of this class belong psychically and physically to the degenerate classes, that they are the product of inherited disease and neurotic taints. The making of the prostitute depends upon alcoholic excesses, syphilis, phthisis, etc., and to relieve society of prostitution one needs to attack these vices of modern society. Prostitution, according to our author's view, is not so much the result of man's uncontrollable sexual passions as it is of society's vices in general.

Criminologists find that men commit crimes four or five times as much as women do. The inference that man is five times as criminal and vicious as woman is denied by Tarnowski, who finds that prostitution in woman belongs to the same category of ethical defects as crimes, that female thieves are of the same class as female prostitutes, and that prostitution so levels the criminality that the balance between man and woman is an even one.

Dr. Tarnowski's work contains a great many interesting facts regarding heredity, anthropometry, and mental and physical degenerations. It shows evidences of a painstaking labor and of a purely scientific spirit. We can give, however, but few details, and must content our readers with presenting the most essential of his conclusions.

Professional prostitutes, he says, show a morbid heredity more or less marked. Alcoholism was especially noted, being present in eighty-two per cent. In 50 out of 124 both parents were drunkards. Among 150 prostitutes 95 admitted excesses in alcohol. Phthisis was abnormally frequent among the parents. Among 150 prostitutes 44 had parents who died of this disease, while among 150 honest women only 15 had phthisical ancestry. Hereditary syphilis was established in four per cent.; epilepsy and mental disease were established in over ten per cent. of the parents.

It was also found that prostitutes present in excessive degree the physical signs of degeneration, such as cranial deformations, abnormalities of visage, dental defects, badly shaped or badly placed ears, etc. All these stigmata are more marked in cases where the mother was an inebriate.

Mentally the prostitute also shows an enfeeblement of the intelligence and especially of the moral sense. Most of them like their calling, and if withdrawn from it they return as soon as they can. They were found to have menstruated earlier than the average woman, to have shown a premature development of the sexual sense, and like the degenerate classes generally, to be relatively sterile. Among 150 prostitutes 92 had been infected with syphilis.

Despite all efforts to elevate and improve the masses, the number of prostitutes will constantly receive new recruits, says Tarnowski, as long as the causes of it exist, viz., the abuse of alcohol, the enfeebling diatheses, phthisis, syphilis, and the grand neuroses and psychoses. Those who would attempt the radical cure of prostitution must work to lessen these factors in its causation. The prostitute is a special and morbid type of humanity, the result of its vices not of its necessities.

Dr. Tarnowski has studied the women faithfully and scientifically. Cannot some one now undertake to measure the heads, record the facial angles, photograph the faces, and note the position and shape of the ears of the male prostitutes who habitually frequent the houses of prostitution and give the main support to this unfortunate class? We should find, no doubt, among 150 male debauchees the same proportion of bad heredity, misshaped skull, and debased moral sense. Dr. Tarnowsky does not study this interesting phase of the question. It takes two to construct the prostitute.

[1] Étude Anthropometrique sur les Prostitués et les Voleuses. Paris, Aux Bureaux du Progrès Medical. 1889.

CLOSTRIDIAL NEPHRITIS—A NEW FORM OF BRIGHT'S DISEASE.

DR. F. V. HOPKINS, of San Francisco, contributes an original, and apparently carefully carried out, bacteriological research to the *Pacific Medical Journal*. It is based upon the observation of a case of chronic nephritis, due, as he believes, to a peculiar micro-organism which he terms "Clostridium renale." The description of the germ is as follows:

Circular cocci, 1.27 μ in diameter; rods, with rounded ends averaging .6 μ in thickness by 3 μ in length, sometimes enlarging characteristically to bear a sporangium, oval in form, and measuring 1.27 × 2.5 μ. Spores circular, .42 μ in diameter. Filaments of indeterminate length, sometimes .6 μ thick throughout their whole extent, at others, 1.7 μ at one end and tapering at the other into branches, whose ends separate by fission into the usual round-ended rods .6 μ thick by 3 μ long. Non-motile, pathogenic, infests the blood and is carried by it to the capillaries of the principal organs, which it obstructs.

This organism produces a chronic affection of the kidneys and other organs of the body, characterized by nervousness, sleeplessness, flatulent dyspepsia, albuminuria, dropsy, dyspnœa, and heart-failure. The occurrence of the germs in the urine, free and in casts, is its pathognomonic symptom.

The particular case in question upon which the description is based was that of a woman who suffered from nervous depression, dyspepsia, insomnia, and cardiac weakness. Her urine contained various peculiar

forms of albumin. Delafield gives tests by which six different varieties of albumin are distinguished. Dr. Hopkins' patient passed still other varieties than these. We are not told the specific gravity of the urine, its daily amount, or that of the albumin, and in this and some other respects there seems to be a lack of careful clinical observation. Casts were found, however, which were composed entirely of bacteria, occurring in the form of rods with rounded ends.

These bacteria were cultivated under proper precautions, and inoculations were made in rabbits with the result, invariably, of causing albuminuria, dropsy, and death, with the bacteria in the kidneys and other tissues.

The patient died, but no autopsy could be made.

Dr. Hopkins' claim to have discovered a new and peculiar form of nephritis cannot be said to be absolutely established, but he has done a service in calling attention to the importance of the bacteriological study of renal casts. The similar studies in bacteriological nephritis which have been made by others are given by the author, thus :

Babes, in Cornil et Babes' "Bacteriologie," p. 373, Figs. 197, 198, has described the "Bacille de la nephrite bacterieuse." "Cylindrical rods, with rounded ends 0.8 μ to 1 μ thick, and of very variable length, sometimes 1.6 μ to 2 μ and sometimes 20 to 50 μ, and sometimes curved." "Habitat, in the urine and renal tissue of patients with diseased kidneys."

In 1880 Dr. Ballard reported a case of meat-poisoning that occurred at Welbeck, Nottinghamshire, England. Four died out of seventy-two that were affected. Bacilli were found plugging the capillaries of the Malpighian bodies in the kidney, though the symptoms were choleraic. The tube-casts were of the hyaline variety (Klein, "Micro-organisms and Disease," pp. 122–125).

The bacilli of swine-plague also attack the Malpighian corpuscles, but here the bacilli occupy the capsule, the capillaries being plugged with hyaline matter (*Ibid.*, p. 133).

Again, the Bacillus anthracis may completely plug the capillaries of the glomeruli and of the renal cortex (*Ibid.*, Fig. 87, p. 160).

Bacillus tuberculosis also can obstruct the blood-vessels of the kidney (*Ibid.*, Fig. 92, p. 171).

The fungi Aspergillus flavescens and A. fumigatus, when injected into the peritoneum of rabbits, proved fatal by forming foci in the kidneys and other organs (*Ibid.*, p. 200; Lichtheim, in *Berlin. klin. Woch.*, 9 and 10, 1882).

Letzerich describes twenty-five cases of an acute dropsy of young persons, which he calls "nephritis bacillosa interstitialis primaria." This disease lasts from two to six weeks, and is due to bacilli which swarm in the urine. Twelve rabbits inoculated with pure cultures of these bacilli developed ascites in about fourteen days. The bacilli occurred "at the junction between the pyramidal and cortical portions of the kidneys" (*Zeitschrift für klinische Medicin*, 1887).

Perhaps the criticism which may be more effectively made against Dr. Hopkins' claim to have discovered a new form of nephritis is that his case was one of general microbic infection, and that the kidneys were not the primary or chief centres of the morbific action.

News of the Week.

The First Execution by Electricity.

By Telegraph to the MEDICAL RECORD.

THE first execution by electricity took place at Auburn Prison, at 6.49 A.M., August 6, 1890. The criminal was William Kemmler, whose name has become so widely known as that of the first victim of the new method of killing, around which there has centred so much scientific discussion and so many legal technicalities. The means to the end of the enactment of the new law of electrical execution for the State of New York are so well known as to render repetition unnecessary. Suffice it to say, however, that the method was finally decided upon after numerous scientific experiments regarding the deadly forces of the alternating electrical current upon the lower animals, coupled with the demonstration of their rapid and painless action. After the taking, by the commission appointed by the legislature, of an almost exhaustless amount of testimony from electrical experts and others, the law abolishing hanging and substituting execution by electricity finally passed the legislature and received the approval of Governor Hill. It was the aim of all interested in the outcome of this novel method of killing to make "assurance doubly sure" as to the result, and it was accordingly agreed that a dynamo generating a voltage of from 1,000 to 2,000, and with a current alternating from 200 to 300 vibrations per second would certainly answer every purpose. Founded upon such recommendations the apparatus used in the execution of Kemmler was constructed. It consisted of a dynamo capable of generating an alternating current of 2,000 volts, with a death-chair, and suitable electrodes, the victim completing the circuit. The death-chair was made from heavy oak, with a high, straight, and slightly inclining back and broad arms. To the back of the chair was a sliding wooden arrangement, the upper portion of which was shaped like a figure **4**. The base or horizontal arm of this figure projected forward, from the end of which was suspended the head electrode. The latter resembled very much in shape, as it hung in position, a dinner-bell with an ordinary handle; the bell being the rubber cup and the handle constructed of wood, through the long axis of which the wire of the electrode passed. This wire terminated in a metallic disk, which, being covered with a sponge, was, by a spring arrangement and the sliding down of the figure **4**, brought in contact with the top of the head of the culprit. The other electrode was fastened to the lower portion of the back of the chair, and corresponded in position with that of the hollow of the sacrum. This disk of the electrode was constructed similar to the first, and arranged in such a way that it could be strapped against the surface of Kemmler's body. There were other straps to fasten the chest, trunk, arms, forearms, and legs to corresponding portions of the chair. The head was secured by a leather mask formed by a forehead and chin band, which was fastened to the back of the chair, leaving the nose, cheeks, and mouth exposed. The wire of the head electrode was suspended from the ceiling, while that of the other electrode passed along the floor, and, with the victim in position, completed the current. At one time during the discussion of the

best method of transmitting the currents it was proposed to send them through the upper part of the trunk only, by applying the head electrode as before indicated and immersing the hands in bowls of water connected with an electrode. It was argued, and with good reason, that the electro-motor force would thus be expended on all the vital centres and death be as instantaneous as by the other means. It was feared, however, that the possible struggles of the culprit might interrupt the current and thus cause the dreadful experiment to fail. Aside from this the ultimate effects would probably have been the same.

Twenty-six physicians and gentlemen witnessed the execution. Among those invited by the warden were Drs. Carlos F. McDonald, E. C. Spitzka, W. T. Jenkins, and George F. Shrady, of New York; Louis Balch and W. J. Nellis, of Albany; Henry A. Argue, of Corning; A. P. Southwick, C. M. Daniels, and George E. Fell, of Buffalo, and T. K. Smith, H. E. Allison, and Oliver A. Jenkins, of Auburn. The warden was also present. They were seated on chairs set in the form of a horseshoe, in the opening of which the death-chair, screwed to the floor and properly insulated, was situated. When everything was in readiness, Kemmler, dressed in ordinary clothes, was led into the room by the warden and introduced to the witnesses present. He was strangely calm under the circumstances, and after a few remarks in reference to his readiness to die, quietly removed his coat and adjusted his cravat, as if to get ready for any ordinary operation. With a forced assurance in his own mind that death would be instantaneous and absolutely painless he deliberately sat in the chair, crowded his bared back against the lower electrode, lent his assistance to the buckling of the confining straps, and even directed that the head electrode be firmly secured in position. While these preparations were in progress, as if appreciating his part in the tragical performance, he apologetically remarked to the spectators that he would do his best to act his part properly. With tender consideration on the part of the warden only two or three minutes were consumed in adjusting the appliances. Then came the time for the signal for turning the fatal switch. In an instant the victim was apparently driven into a shrinking, crouching, rigid mass, with the exposed features in a grin, and the muscles of the entire body in fixed and rigid spasm. He remained in this condition for seventeen seconds, when the current was interrupted and the muscles became relaxed with a momentary and quivering uncertainty. Then all was still and the patient was pronounced dead. Seventy-three seconds after the current was turned off a slight heaving of the chest was noticed, and this was immediately followed by slow, rhythmical, stertorous breathing. Although every sensation was abolished the forced breathing continued, and with each expiration a slight amount of mucus was bubbled through the closed lips. Notwithstanding the fact that directions were immediately given to turn on the current again, by some misunderstanding on the part of the one who ran the dynamo this was not done until two minutes had elapsed. Then the same phenomena were repeated, and the culprit was kept under the full power of the instrument—fourteen hundred volts—for two and one-quarter minutes, when all the unpleasant symptoms disappeared. As the result of this long-continued current the moisture in the sponge of the lower electrode became separated and resulted in the deep burning of the flesh at that point. As soon as the resulting smoke was discovered the circuit was at once interrupted. On examination of the body immediately after the interruption of the second current, Kemmler was declared dead by Drs. Carlos F. McDonald and E. C. Spitzka, the gentlemen who were appointed as the physicians by Warden Durston. The pulse had ceased to beat, the pupils were dilated, and upon the exposed portions of the face and the backs of the hands evidences of commencing capillary post-mortem changes were evident. Three or four minutes after the disconnection of the second current the eyes were examined again, when the corneæ were found to be depressed and the eyeballs flaccid on pressure. Kemmler was then left in the chair until the autopsy was held.

Auburn, August 6.—The autopsy was held three hours after death, under the supervision of Drs. Carlos F. MacDonald, E. C. Spitzka, and George F. Shrady, of New York, and performed by Dr. W. T. Jenkins, of New York, assisted by Dr. Clayton M. Daniels, of Buffalo, N. Y.

Dr. Shrady this evening gave out the following as the results of the autopsy so far, as information for public use: Body fairly well nourished. Rigor mortis marked, particularly in the muscles of the jaw, neck, and thorax, and gradually extending from above downward, involving the feet and legs last. The post-mortem hypostasis marked over lower portion of body and extending up as far as the anterior axillary line, also on the pendant surfaces of the upper and lower extremities. The upper extremities are partly flexed and rotated outward, the nails showing post-mortem lividity. There was a seminal discharge which on microscopic examination was found to contain a large number of dead spermatozoa. There was marked discoloration of the forehead about an inch in width, corresponding with the position of the strap, beginning at the hair line on the left side and extending to the hair line on the right side. A corresponding discoloration from the pressure of the chin-strap was also noted. There was an oval depression of the scalp upon the vertex, beginning at the anterior hair line and measuring four inches in its long and three and a half inches in its short diameter. Anterior to the posterior portion of the depression and in the immediate line there was a burn one and one-half inch in length and half an inch in width, superficial in character, slightly scorching the hair and crescentic in shape. On small of the back, corresponding to the level of the fourth sacral vertebra, below and second above, four and one-half inches in vertical diameter and four and one-half inches in transverse diameter, was a burn presenting four concentric zones, of which the outermost had a pale area, corresponding to that of the rubber cup of the electrode and one-fourth of an inch in diameter.

Succeeding this was a partial and complete vesication, partial below and complete above, about an inch in diameter above and one-third of an inch below.

Then follows a transition zone, which is in its upper third a complete eschar, black in appearance, and in its lower part shows desiccation and is of a greenish-brown color. An internal zone shows a number of vesicles, chiefly peripheral, and below the centre a black eschar,

half an inch in its vertical and five-eighths of an inch in its transverse diameter. Above is a tongue-shaped pale area with a lateral projection to the left of the median line, extending about two inches, and an upper projection in the dorsal furrow which is more sharply pointed and which on its periphery shows a reddened portion with here and there vesication. In addition the back showed a number of depressions produced by the folds of the shirt and suspenders, such as are commonly found in dead bodies lying on the back.

On incising the skin over the sternum the blood which escaped was unusually dark and fluid and remained so on exposure. There was no vermicular action of the intestine on exposure to the air or on irritation. The diaphragm extended from the fifth intercostal on the left and the fourth on the right. The blood from the cut surface of the liver was of a crimson-like color. Abdominal organs were normal in position and appearance. The muscles of the thorax were of the usual color. Tar-like spots were noticed on the posterior border of the lower lobe of the left lung. Over half of the lung floated when placed in water, showing a marked emphysematous condition. The bronchi were normal in appearance and contained mucus and air-bubbles. The right lung was adherent throughout to the diaphragm. In the middle lobe of this lung there were numerous well marked tar-like spots. The spleen was normal in size and appearance. The left kidney weighed three and one-half ounces and the right kidney three ounces; both were intensely congested. The stomach contained a pint of undigested food. The gall-bladder was distended with bile. The heart weighed five and three-fourths ounces, valves were healthy. Bladder contracted.

The scalp on being removed showed the vertex of the skull to be in a desiccated condition, corresponding with the contact of the electrode as previously noted, but of larger area, being four inches by four inches, the zone of the scalp being only two and a half by three inches, the long diameter being antero-posterior. On removal of the skull-cap the dura was normal in texture, somewhat dull in color, particularly over the area corresponding with the zone of contact. In the prerolandic region the meningeal vessels, measuring along the convexity antero-posteriorly four inches on the left side and three on the right, were filled with carbonized blood. On the internal aspect of the calvarium the meningeal vessels in the dura and their contents appeared to be black and carbonized. The carbonized vessels were so brittle that their ends were torn off with the calvarium and presented a broken, crummy appearance. This carbonization was limited in an abrupt manner. The other meningeal vessels contained blood of a crimson-like hue, corresponding to the outer burn previously described. In its narrowest portion was seen, a little posteriorly in the median line, a dark, discoloration sending out a right lateral prolongation three-fourths of an inch in the direction of the longitudinal sinus, and in width seven-eighths of an inch. Over the left hemisphere, one-third of an inch left of the median line, there was a deep carbonized spot corresponding with the carbonized portion of the calvarium. This charred spot corresponded to the dull-colored areas previously described. The pia and gyri themselves were of a pale buff color, the rest had the ordinary rosy injection of the ordinary cortex. While observing this anæmic area it was noticed that its blood-vessels began to fill. The pia and arachnoid on the convexity were perfectly normal. An interesting fact was observed on handling the pons and medulla, in that they were found to be warm. By a thermometer inserted in the fourth ventricle, the temperature was noted at 97° F. This corresponds with an area of temperature on the back of the neck which was noted as 99° F., two hours after death, and 97½° F., three hours post mortem. The smaller vessels of the pia were ectatic. Capillary hemorrhages were noted in the floor of the fourth ventricle, and the same condition in the third ventricle and the anterior portion of the lateral ventricle. The perivascular spaces appeared to be distended with serum and blood. The brain cortex in the area of contact was sensibly hardened to one-sixth of its depth, where there was a broken line of vascularity. The vessels over the corpus striatum showed enlargements in different parts of their ramifications. The pons was slightly softened. The burned integument of the back, on being removed, showed the spinal muscles underneath to be cooked, like "overdone beef," throughout their entire thickness. The spinal cord was removed entire, but showed no gross appearances of pathological condition. Portions of its structure, as well as those of brain-tissue, were preserved by members of the staff for purposes of hardening and microscopical examination. The blood taken immediately after death showed under the microscope a markedly granular condition, almost suggesting an electrolytic dissolution of the red corpuscles.

The French and the Berlin Congress.—It now appears that, in spite of hostile agitation, a very fair proportion of Frenchmen is attending the present International Congress at Berlin. The number of French doctors visiting Berlin is estimated at nearly two hundred. Regarding the true motive underlying the advocacy of French non-participation, a writer in the *Union Médicale* says, it was not the Virchow-Starck affair, which Dr. Huchard made the most of at the very time when the French press, both lay and medical, were uniting to bury all differences. The real reason, it is asserted, is the neglect which Germany showed to the Paris meetings of last year. At any rate it is comforting to find in the current issue of the *Journal de Médecine de Paris*, an earnest plea in behalf of French attendance at the Berlin Congress. To the question "*Devons-nous aller au Congrès de Berlin*," an emphatic yes is given as answer. One can go to Berlin without ceasing to be *bon français*, is a sentiment that does credit to the editor of the *Paris Médical*.

The Worst Form of Loneliness.—The doctor who has not yet attended a Medical Congress.

Legal's Urine Test in Tumors of the Liver.—At the Vienna Surgical Society Professor Nothnagel recently showed a patient with a hard tumor in the liver. He applied Legal's urine test, and found it perfectly accurate. Legal's test solution is a mixture of the nitro-prussiate of soda, to which a solution of potash is added. If aceton be present in the urine when this is added the urine takes a dark red color, which is intensified when acetic acid is added. This test is said to be alone sufficient to prove the presence of a melanotic tumor.

The Hydrophobia Scare.—Chicago is to have a new hospital for the inoculation of hydrophobic virus. Already the statistics are picking up in that vicinity. If the poor dog could only speak and smile, what would he say and do?

Dr. William Brodie, aged sixty-seven, one of the best-known physicians of Michigan, died at his home in Detroit. He held many prominent offices in medical circles and was highly esteemed.

Dr. W. G. Stevenson died at Poughkeepsie, N. Y. He was born in Sandusky, O., in 1843, and was graduated from the College of Physicians and Surgeons in New York in 1865. He was a member of the Board of Education.

Dr. R. C. Word, a prominent physician of Georgia, died July 20th. He occupied the position of Professor of Physiology in the Medical and Dental Departments of the Southern Medical College in Atlanta, and was for many years associate editor of the *Southern Meaical Record.* He was graduated at the University of the City of New York in 1846.

Mr. Thomas Bryant, Vice-President of the Royal College of Surgeons, England, has been elected President for the ensuing year in place of Mr. Jonathan Hutchinson, whose term of office expires. Mr. Thomas Smith and Sir William MacCormac were elected Vice-Presidents.

Leprosy in Dutch Guiana.—According to a bishop of Dutch Guiana, leprosy prevails to a more serious extent in that colony than is generally supposed. Three of the Redemptionist fathers have been attacked by the disease, and one is now slowly dying of it at the leper station of Batavia.

A Congress of Microscopists will be held in Detroit on August 12th and three following days. The presidential address will deal with the influence of electricity on protoplasm, and among the papers announced is one by Professor Marshall D. Ewell, of Chicago, on some of the medico-legal questions involved in the Cronin case.

A Funny Health Officer.—The Michigan State Board of Health recently took Health Officer Davis, of Close Village, to task for failing to send in his weekly reports. His reply is unique. He says: "There has not been enough sickness here in the last two or three years to do much good. The physicians find time to go to Milwaukee on excursions, serve as jurors in justice courts, sit around on drygoods boxes, and beg tobacco, chew gum, and swap lies. A few sporadic cases of measles have existed, but they were treated mostly by old women, and no deaths occurred. There was an undertaker in the village, but he is now in the State prison. It is hoped and expected when green truck gets around, melons plenty, and cucumbers in abundance that something may revive business. If it does I will let you know."

The New Urban Hospital of the City of Berlin.—This new hospital has just been opened. Its erection cost three and a half million marks. There are in all five hundred and seventy beds, contained in eighty stately pavilions. The heating is by hot water or steam from central furnaces. The lighting is a peculiar feature; for the first time, as far as is known, no arrangements for any other light than the electric have been made. A double system has been laid on, so that in the failure of one the other would be equal to the occasion. An extensive arrangement of accumulators of the Tudor system stores up electrical energy for eleven consecutive hours. On arrest of the motion of the generators the whole system of lamps becomes automatically lighted, so that the entire edifice remains lighted through the night without any motion of the machinery. The electrical installation cost 160,000 marks.

The American Dermatological Association will hold its fourteenth annual meeting at Richfield Springs, N. Y., September 2d to 4th. Dr. Prince A. Morrow, of New York, is president.

The Doctor's Garden.—The Wiscasset *Liliputian,* of Maine, informs its readers that Dr. C. Peaslee is pulling down the fence between his premises and the cemetery. It goes on to say, "the view from his residence will be much improved after the stones in the cemetery are righted up." The view must be delightful at all times, especially to a physician. The removal of the fence, too, suggests the air of common ownership, the graveyard being, as it were, the doctor's garden. The doctor who can look upon a graveyard and enjoy an easy conscience is invaluable in any community.

Boycotting Irish Physicians and Surgeons.—The recent cases of the exclusion of Irish medical graduates from holding appointments in certain places in England, have caused the President and Council of the Irish College of Surgeons to issue a printed statement on the subject. It is a notorious fact that such institutions as the Liverpool Royal Infirmary and the Bristol General Hospital have decided that "no Irish need apply" for any appointment, and have decreed that fellows and members of the London colleges shall alone be eligible to hold office. The plea put forward for the exclusion of Irish medical men is that Irish examinations are inferior in standard and their degrees of less value than English ones. To show the utter absurdity of such a statement the Royal College of Surgeons in Ireland, through its Council, has sent out the document mentioned above. If there is one thing more than another which should at once set at rest this question, it is the fact that candidates who are "plucked" in Ireland in the main go either to London or Edinburgh and there obtain qualifications which the Irish College, through its examiners, had declared they were not entitled to. If the course of study and the examinations are taken a similar result is obtained. Irish students are required to undergo four annual examinations; three suffices for the English College of Surgeons. Ireland requires three courses of dissections, England only wants two. One course of lectures in anatomy is deemed sufficient in England, while in Ireland two are imperative. It would be not only a waste of time, but of space, to go through the entire list of study, which in each detail points *conclusively* to the greater severity of Irish examinations as compared with English. The tables of passes and rejections, as presented in the College statement, show that the rejections in Ireland are at least six per cent. higher than in the English College of Surgeons.—*The Hospital Gazette.*

The Medical Centre.—Philadelphia is again vaunting herself in one of the local papers as the Medical Centre of the United States. No one who lives in Philadelphia will doubt the fact.

The International Congress on Alcohol.—From the 3d to the 5th of September this Congress, the third of the series, will hold its sittings in Christiania, and the programme gives promise of highly interesting and, we trust, fruitful discussions. The report of the president of the permanent committee (Dr. Forel, of Zürich) will review the work achieved in lessening the evils of drunkenness between 1887 and 1890, after which papers will be read—1, On "The Means which have Proved most Effective in Norway for the Diminution of Alcoholism;" 2, on "The Results of the Gothenburg System;" 3, on "The Alcoholic Question in Relation to the Rearing of the Young;" 4, on "The Degeneration of Indigenous Tribes through the Spirit Trade;" and 5, on "Freely Diluted Alcoholic Beverages, or, in other words, Moderation as a Means of Combating Intemperance." Other papers on branches of the great drink question will be read by Dr. B. W. Richardson, Professor Böhmert, Dr. H. von Hebra, Dr. H. Kurella, and other distinguished promoters of the temperance cause. Many non-medical or lay friends of the same social reform will take part in the proceedings, the attractiveness of which will be materially enhanced by an exhibition of writings, illustrations, and various other objects bearing directly or remotely on alcoholism in all its ramifications. A similar exhibition was held at the last meeting of the Congress (at Zürich), and proved an excellent adjunct to the discussions.—*Lancet.*

The Annual Meeting of the American Climatological Association will be held in Denver, September 2d to 4th, and a successful gathering is expected. The Western Passenger Traffic Association has granted a one fare for round trip rate; tickets to be bought August 31st and September 1st, and good for return till September 25th, which is open to others as well as members. One-third of the time is expected to be given exclusively to the study of Colorado subjects, and after the three days' sessions the visiting physicians are to be given an opportunity personally to investigate the mountain resorts by a series of complimentary excursions.

Scarlet Fever is again very prevalent in London, and the weekly returns show a steady increase in the number of cases. Special measures have been ordered to be prepared for the prevention of its further extension.

A Pleasant Japanese Watering-place.—The watering-place of Kusatsu has a great reputation among the Japanese in the treatment of leprosy. M. Louis Bastide, who recently visited it, found three hundred lepers in residence there; they live in certain special hotels, in which every one, from the proprietor to the waiters, is a leper. Some of those who resided in Kusatsu were mere beggars, but others were persons of a better class, who took the waters diligently, hoping for a cure.

Professor Schmidt-Rimpler, of Marburg, has been appointed to the Professorship of Ophthalmology at Göttingen, vacated by Professor Leber, who has gone to Heidelberg. Professor von Hippel of Königsberg has declined the invitation to come to Göttingen.

Society Reports.

International Medical Congress.

TENTH SESSION.

Held at Berlin, Germany, August 4, 5, 6, 7, 8, *and* 9, 1890.

(Special Cable Report to the MEDICAL RECORD.)

FIRST DAY, MONDAY, AUGUST 4TH.

General Notes.—The first part of the Tenth International Medical Congress surpasses all preceding ones in its size, at least, though it is yet too early to say what rank it will take as a scientific gathering. Over seven thousand members are registered, the great majority of whom are from Germany, the Americans probably coming second in point of numbers. There are not a few Frenchmen also, though not as many as it was hoped there would be. The hotels are filled to overflowing, and numbers are lodged in private dwellings. The general meetings are held in the Circus Renz, the largest available building in Berlin, yet far too small to accommodate all the members of the Congress. The acoustic properties of the building are not very good, and speakers can with difficulty be heard by those seated at a distance. The hall is handsomely decorated, a heroic bust of Esculapius above the tribune being the most conspicuous object. The meetings of the Sections, of which there are twenty, are held in the beautiful halls of the Exposition building. This building is easy of access from most all parts of the city, and is surrounded by an extensive park, in which are several restaurants and cafés where the members can refresh themselves when wearied with scientific labors.

Opening of the Medico-scientific Exhibition.—Although the actual work of the Congress did not begin until Monday, there was quite a large gathering on Saturday morning in the Exposition building, to assist at the opening of the Medico-scientific Exhibition. DR. LASSAR delivered the address, in which he explained the object of the exposition, and craved indulgence for any shortcomings because of the limited time given to the Organizing Committee to perform their work. This was but a beginning, and should be judged as such, but the speaker hoped it would lead to great results in the future. On behalf of the Congress PROFESSOR VIRCHOW thanked the Committee for their labor, and, after three cheers had been given for the Emperor, he declared the Exposition open.

GEHEIMRATH KOEHLER, as the representative of the Government, followed with a short address, and then the military officials present were shown through the buildings, the members of the Congress following. The Exposition is very creditable and instructive. It is located in the permanent exposition buildings, where also most of the sections meet. In addition to the usual exhibit of surgical appliances and pharmaceutical preparations, there are shown anatomical, histological, and pathological specimens, models of field hospitals, conveyances for the wounded, methods of bacteriological investigation, and many other objects of interest to medical men.

Opening of the International Congress.—The first general meeting of the Congress was held in the Circus

Renz on Monday forenoon. It was called to order by the President of the Committee on Organization, PROFESSOR VIRCHOW, who delivered the Address of Welcome. He spoke of the difficulties encountered by the Committee in providing for so many guests, and hoped that their work would be judged leniently. He thanked the members for coming in such numbers, and extended to them a warm greeting. He said the Emperor regretted not being able to be in the city, but had given orders for the reception of guests. He then spoke at some length of sanitary undertakings in Berlin, and closed with a few words of hearty welcome. Secretary-General Lassar then made his report. MINISTER VON BOETTICHER, as the representative of the German Empire, followed with an address, in which he referred to the special interest taken by the Government in sanitary measures, and assistance rendered them in this work by the medical profession. MINISTER VON GOSSLER then welcomed the members on behalf of the Prussian State. Other addresses were delivered by Herr von Forckenbeck on behalf of the city of Berlin, and Dr. Graff, President of the German Medical Society. Addresses from the foreign members then followed. Surgeon-General Hamilton spoke for the United States; Sir James Paget, for England; Professor Bouchard, for France; Professor Bacelli, for Italy, his address being in Latin; Professor Czatary, for Austro-Hungary; Professor Aretaus, for Greece; and Professor Pashutin, for Russia. The names were then read of the honorary Presidents of the Congress.

PROFESSOR VIRCHOW was nominated and unanimously elected president of the Congress. A recess was then taken to enable the audience to breathe a little fresh air, for the day was warm and the atmosphere within the building disagreeably close.

The Present Position of Antiseptic Surgery.—The scientific work of the Congress was opened by Sir Joseph Lister, who delivered an address on "The Present Position of Antiseptic Surgery." He dwelt at some length upon the theories of immunity developed from results of bacteriological studies, referring especially to Metshnikoff's hypothesis that pathogenic micro-organisms are destroyed by certain cells called phagocytes. He then gave a review of the origin and development of antiseptic surgery, taking occasion to declare himself a firm upholder of antiseptic in contrast to aseptic methods, although the latter were not without their uses. He maintained, however, that strict cleanliness, as insisted upon by Lawson Tait, and the use of boiled water were really antiseptic measures. The speaker had modified in many ways his original methods, had wholly abandoned the spray, and said that he felt ashamed that he had tried, and advised others to try, to destroy the microbes in the air. He was a believer in the efficacy of sublimate solutions and used them in strengths ranging, according to circumstances, from one in five hundred to one in ten thousand. He had also used cyanides of zinc and of mercury, and recommended them as efficacious antiseptics. He then referred to special indications in the antiseptic treatment of thoracic fistulas, contused wounds, joint injuries, etc., and closed with the reaffirmation of his belief in the necessity of antiseptic as opposed to so-called aseptic surgery.

Bacteriology.—The second address was by DR. ROBERT KOCH, who had naturally selected for his subject "Bacteriology." The address aroused much interest because of the promise that the near future migh witness the development of a method for the prevention and cure of tuberculosis. The speaker reviewed recent progress in the science of bacteriology, and the results already achieved. The time had passed when the specific microbes of certain infectious diseases could be regarded as harmless or accidental parasites. Methods of culture and inoculation experiments left no room to doubt the causal relation of special micro-organisms to certain specific diseases. That this discovery had hitherto led to no striking therapeutic results argued nothing against bacteriological study. It had already given rise to many measures of undoubted utility, such as sterilization of milk, disinfection of morbid excretions, filtration of water, etc., and had furnished a sure method for diagnosis of certain diseases, such as tuberculosis and cholera. The fact that we had hitherto failed to discover the specific cause of rabies, pertussis, yellow fever, and other diseases, was no argument against bacteriological methods as at present employed. It was very possible that the causes of these diseases belonged to a different order of micro-organisms, and could not be discovered by our present methods of research. In favor of this view was the fact that the micro-organism of malaria was a plasmodium belonging to the protozoa, and not to the vegetable kingdom. The speaker believed we were just entering the second stage of bacteriology, where we should have to do with protozoa as disease-producing germs.

Immunity against Tuberculosis.—Referring again to the practical results of bacteriology, Koch said that it had hitherto furnished means only for the prevention of disease, but had not helped us to cure disease already established. He thought, however, we were on the eve of practical therapeutic developments based upon this science. It was not his custom to publish his investigations until they were completed, but he would make an exception this time. He had not only succeeded in conferring upon guinea-pigs, which are known to be peculiarly susceptible to tuberculosis, perfect immunity against that disease, but had also discovered means of arresting the growth and multiplication of tubercle bacilli after inoculation. If he should be equally successful in preventing and arresting tuberculosis in man, it was not too much to hope that means would be found for successfully combating other diseases. In closing his most interesting address, the speaker hoped that all nations of the earth here represented would meet on one common field, and advance to victorious combat against these smallest but most dangerous enemies of the human race.

At the conclusion of this address, PROFESSOR VIRCHOW congratulated the members on the auspicious inauguration of the Congress, and declared the first general meeting closed.

Clinics.—In the afternoon the various sections were organized, and several clinics were given in honor of the guests. Among the latter was one by PROFESSOR WOLFF, to the Orthopedic Section, and a surgical clinic by PROFESSOR VON BERGMANN.

In the evening there was a social gathering of members in Exhibition Park. There was also a dinner of about seventy-five covers given by the Committee of Organization at the Kaiserhof Hotel. Among the Americans

present were Minister Phelps, Drs. Jacobi, of New York, Wood, of Philadelphia, and Billings, of Washington.

Tuesday was devoted to Section work. Early in the morning there were a number of clinics given in honor of the Congress in Augusta Hospital and the new city hospital. In the evening a reception in the Rathhaus, by the city authorities. Only about three thousand tickets were issued, and these were given to the first applicants, so that many of the foreign members, who arrived on Sunday or Monday, failed to receive invitations. As it was, the halls were uncomfortably crowded. The decorations were lavish and artistically beautiful, the grand staircase being almost carpeted with flowers.

The Second General Meeting was held on Wednesday morning. The crowd was not so great as on the first day, and the session was not as protracted. The result was that the orators appointed for the occasion had a better audience, for on Monday many were exhausted by the heat and left during and before recess, so that when the time came for Professor Lister's address the hall was, comparatively speaking, almost deserted. The addresses on Wednesday were by Professors Bouchard, of Paris, Axel Key, of Stockholm, and Wood, of Philadelphia.

The Mechanism of Infection and Immunity was the title of PROFESSOR BOUCHARD'S address. After reviewing the processes by which the animal organism is enabled to destroy bacteria, namely, phagocytosis and the bactericidal state, he spoke of the means by which bacteria caused disease. Microbes act by their secretions; these paralyze the vaso-dilator centre in such a way that exudation and diapedesis are rendered impossible. After artificial injection of this secreted material, phenomena of inflammation, namely, vascular dilation, redness, swelling, and heat, cannot be excited even by application of croton-oil. Now these products which hinder production of local lesions, that is, which prevent diapedesis, render more rapid and more grave general infection, and even render the latter possible in animals which possess natural or acquired immunity. This action occurs immediately after injection but lasts only six or eight hours.

The Action of Vaccinal Material.—The speaker then dwelt upon the action of vaccinal material. This acts slowly upon nutrition and produces a bactericidal state which continues long after the elimination of the vaccine. This state becomes manifest about two days after inoculation and is very pronounced at the end of three or four days. He then took up the question of infection. If the inoculated microbe falls into a markedly bactericidal region it will not develop and there is no disease. If it falls in favorable soil there is immediate development of disease; if the region is moderately bactericidal there is local modification of the disease. As soon as the number of microbes becomes sufficiently great the secretory products act and febrile and toxic symptoms appear. When the bactericidal state does not exist phagocytosis alone can struggle on in behalf of the animal organism. But phagocytosis is often impeded because secretions of micro-organisms paralyze the vaso-motor centre and render diapedesis impossible. Bacteria therefore multiply and disease progresses, but meanwhile vaccinal matters have begun to modify nutrition, and the bactericidal state becomes established. Disease has reached its acme and must decrease. In bactericidal soil multiplication of bacteria ceases, the secretions diminish, especially those which impede diapedesis, then white globules emerge from the vessels and the microbes already weakened in consequence of the acquired bactericidal condition of the tissues are destroyed by phagocytosis.

Cure of the disease is the first manifestation of acquired immunity. This immunity left by the disease is due to persistence of the bactericidal condition. If, in a vaccinated person, the same microbe no longer produces general infection, but provokes only a local lesion, that is to say, diapedesis, and consequently phagocytosis, it shows that the virulent bacterium is attenuated in a bactericidal medium, and in consequence of this attenuation no longer secretes a substance capable of impeding diapedesis. Natural immunity cannot be attributed to the bactericidal state; it depends upon the greater resistance of the vaso-dilator centre to the action of the paralyzing matters which certain animal species possess. This natural immunity can be overpowered by introducing a very large dose of the material impeding diapedesis at the same time with pathogenic microbes.

The Development of Puberty and the Relation of the Same to Diseases of School Children.—PROFESSOR AXEL KEY'S address on this subject followed. His conclusions were based upon a large number of examinations as to the growth in height and weight of children during school age. It was found that marked arrest of growth occurred at the time of puberty. In winter the growth in height was most rapid, while in summer increase in weight was three times as rapid as in winter. This difference he attributed to the influence of the vacation period. School children are worked too hard, the hours of study are too long and encroach upon the time needed for sleep. Care should therefore be taken to lighten the labors of school children, especially just before and during puberty. In this way much chlorosis, habitual headache, scoliosis, etc., could be prevented.

These two addresses were very long, the weather warm, and the hall oppressively close, so PROFESSOR VIRCHOW announced the delivery of Dr. Wood's address postponed until the general meeting on Saturday.

In the afternoon Section meetings were held, as usual, in the Exposition buildings.

In the evening members of the various Sections met for dinner in different parts of the city.

The weather has been hot and damp, and the attendance at the general and Section meetings has consequently been less than it should have been.

Rome has been selected for the next meeting of the Congress.

A meeting of Americans was held on Tuesday to consider the advisability of inviting the Congress to Chicago in 1893, but it was wisely decided not to do so.

Permanganate of Potash Baths in Small-pox.—Dr. Galewouski, of Paris, reports that in the small-pox hospital at Brunn, in Austria, baths colored red with permanganate of potash are used for the treatment of small-pox. It is stated that after a short stay in the bath the temperature of the patient falls materially, his general health is improved, the pustules are resolved, and recovery sets in.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON OBSTETRICS AND GYNECOLOGY.

Stated Meeting, April 24, 1890.

EGBERT H. GRANDIN, M.D., CHAIRMAN.

Laparotomy for Tubercular Peritonitis.—DR. CURRIER presented specimens from a case of diseased tubes and ovaries, and referred to one which brought up the question of laparotomy in tubercular peritonitis.

DR. JOSEPH PRICE, of Philadelphia, said he had operated in a number of cases of tubercular peritonitis, and all had done well except those in which drainage had proved impossible without injury to the viscera.

A Case of Kyphotic Pelvis.—DR. C. D. SCUDDER gave the history of the case, which was of interest in respect to treatment. The patient was a short, slight, deformed girl, aged twenty, unmarried, who had suffered from rickets until twelve years of age. The genital organs were normal. She seemed to be in the thirty-first or thirty-fourth week of pregnancy. The pelvis was contracted, the estimated measurement at the brim, anteroposteriorly, being about three inches, the transverse two and three-fourths. The question arose whether to bring on labor or wait till term and do Cæsarean section. The patient's condition was bad, and was likely to grow worse, so that it was decided to bring on labor, and should version fail, be prepared for Porro's operation. He succeeded, although with great difficulty, in introducing the hand into the vagina, the patient being under ether, and with two fingers in the uterus, skilfully aided by external manipulation made by Dr. Kelly, succeeded, after some time, in grasping a foot and performing version. The fœtus was then successfully extracted, and survived thirty hours. It weighed three pounds and thirteen ounces; the circumference of the head was thirteen inches, the occipito-mental diameter four and five-eighths. A complete right lateral laceration of the cervix was the only accident. The successful issue of the case showed what could be done under favorable conditions by conservative treatment.

The paper was discussed by Drs. Price, Hoffman, and Baldy, of Philadelphia, and J. D. Kelly, Hance, Dudley, Vonramdohr, the President, and author of the paper, of New York. Dr. Price referred to three cases recently sent to the hospital for the Porro operation or Cæsarean section, in which he succeeded, after trying labors, in delivering the women of living children. For his own comfort, he would prefer in similar cases to do Cæsarean section or the Porro operation; but he thought in many of the cases where Cæsarean section had been resorted to of late, a living child might have been brought into the world by the natural passages had premature labor been brought on about the eighth month. Dr. Hoffman had recently brought on labor in a case of male-pelvis at the eighth month, the patient having preferred this procedure to Cæsarean section, which had been suggested by another physician. She had once before given birth to a living child by the use of instruments. There was a woman in Philadelphia who had once given birth to a living child without the use of instruments, another time instruments were used and the child died. A third time she fell into the hands of an operator, and passed successfully through Cæsarean section. A fourth time she passed through a premature delivery. Cæsarean section, he said, had its place, but it was limited. Dr. Baldy also referred to some cases showing the success of nature's efforts where it had been supposed instruments or an operation would be necessary. Dr. Hance mentioned the case of a girl, aged thirteen, on whom it was expected to have to perform Cæsarean section, and they were surprised to see her delivered naturally, at the end of two hours, of a child weighing nearly seven pounds. Dr. Dudley thought Cæsarean section should not be instituted until labor had actually begun, and perhaps had continued several hours, for the reason that the child sometimes passed in a natural way where it was thought almost impossible. Yet he had had one case delivered with instruments, although with extensive cervical rupture, and two years afterward, last December, at a second labor, two hours of hard work with instruments brought forth another child, whose head was nearly twice the usual size. The woman did not rally, although there was no hemorrhage, and he was led to think rupture had taken place through the old scars into the peritoneal cavity. Dr. Vonramdohr cited cases showing error of judgment on the part of the physician, and difference in moulding qualities of the fœtal head. He had confined a woman four times. At her first pregnancy another physician did craniotomy. At the second, the speaker delivered her of a dead child, with forceps. He afterward delivered her of two living children prematurely, which died. The fifth time she allowed pregnancy to go to term, had a normal labor, and the child continued to live. He would, therefore, wait to the last moment consistent with the safety of the mother and child, and then do craniotomy, especially if the child were believed to be dead. The chairman said the discussion showed that obstetrics was full of surprises. Usually in kyphotic pelves one diameter was greatly diminished, others increased, and he thought the skilful obstetrician could safely conduct the child through if labor were brought on at about the eighth month, and this procedure was to be preferred to Cæsarean section. But the same rules did not apply to other varieties of deformity. He thought craniotomy would have to give place to Cæsarean section whenever the child was alive.

A Gynecological Table, Constructed entirely of Metal and Glass, was exhibited in model by Dr. Edebohls.

Salpingo-oöphorectomy and its Results was the title of a paper read by DR. H. J. BOLDT. (See p. 545, vol. 37.)

The discussion which followed was very prolonged, touching upon nearly every phase of salpingo-oöpho rectomy, and was participated in by numerous gynecologists.

DR. JOSEPH PRICE, of Philadelphia, said, with regard to psychical manifestations, that in none of his cases had insanity followed the operation, although one had been mistakenly attributed to him at the Norristown Asylum. Altogether three cases had been reported from that institution. He spoke, however, of a "hospitalism," or chronic mental condition, from going the rounds of the hospitals and dispensaries, from which nothing could arouse these patients, an unsexing which he said was worse than the unsexing resulting from the loss of the ovaries. One cause of after-troubles was the stitching of cyst or pus sacs into the abdominal incision instead of removing them; another was adhesions, which at times seemed unavoidable. Post-operative inflammatory sequelæ should never occur. Pelvic abscess, vesico-vaginal fistula, mural abscess, indicated failure in execution; fecal fistula and ventral hernia should not occur. As to the kind of cases operated upon by him, he dismissed nearly all the "border-line cases," so called, or walking cases. He did not mean, however, to recommend the rejection of all of this kind, for sometimes he had been called, two or three years afterward, to operate when the pulse was 140 and the abdomen full of pus (rupture of a pyosalpinx having taken place). The speaker went on to state that refusal to operate in cases which were instead treated by electricity or other local measures resulted sometimes in the development of tuberculosis of the lungs, etc. He showed some drawings in proof that strictures took place in the tubes, in some cases of salpingitis, which could not be overcome by electricity or other measures intended to favor absorption of the tubal contents or their escape through the uterus. Puerperal pyosalpinx was very interesting, he having operated during the past winter in eight cases, as a life-saving measure. His paper was mostly an argument against too great conservatism.

DR. HOWARD KELLY, of Baltimore, had had insanity follow gynecological operations in three cases. In one a double pneumonia developed after the operation, and

prolonged insanity, but this patient had before been insane. One worried because it was reported she had been in the hospital to be relieved of a child, instead of a tumor. The other was a recent case, and likely to recover. Since 1886 he had performed oöphorectomy in ninety-six cases. In speaking of ultimate results, he omitted all cases not heard from six months after the operation, but he inferred they were relieved, otherwise the patients would have returned to make complaint. Eight of the operations were for fibroids. The patients were symptomatically relieved. Twenty-five were heard from who were operated upon for simple salpingitis and oöphoritis. One, operated on in 1886, required removal of the other tube and ovary in 1888; slow-healing fistula; patient improved. Three had fecal fistulæ, one a fistula of the left ureter, all healed. Two patients got well, but had uterine hemorrhages after a year, and were found to have a mass at the cornua uteri, shown, by operation in one, to be an encysted ligature. Two others had encysted masses close to the uterus. One discharged pus through a scar, another a ligature through the vagina after incision; two patients had hernia; two suffered from the same severe headaches which they had before the operation. He knew of no case, however, not symptomatically improved—speaking strictly of local conditions, and not of other ailments which they may have had before the operation. Classifying separately the cases in which the inflamed tubes and ovaries were bound down by adhesions of pelvic peritonitis, there were thirty-three, thirteen of which were well, seventeen improved; one had been improved, but was troubled much from frequent desire to urinate; another patient had died, cause unknown to him; one, operated upon last year, not improved. Three were operated upon twice. His opinion of these cases was that the results justified the operation. Out of twenty-five cases of lesser disease of the ovaries requiring their removal, with that of the tubes, he knew eight to be well, most of the others to be more or less improved; one had hystero-epilepsy.

Thus, statistics of this operation went to show, 1, that a small percentage of the patients were restored to perfect health within a few weeks; 2, that a larger number experienced only a certain amount of improvement, the operation, however, forming a necessary stepping-stone on the way to comparative health; 3, that a few cases were subjectively not better after the operation than before, although seriously diseased structures may have been removed.

It was at once evident from this that abdominal surgery stood upon the same plane as general surgery, and that successful results were not often absolutely good, but were, finally, relatively good. According to the class of cases the operation was necessary or elective.

Dr. W. T. Lusk considered the results of treatment of pelvic cases at present, compared with results obtained in the past, when they were regarded as pelvic cellulitis. Under old methods patients got along usually pretty well, but there was a small proportion which ended sadly—pus discharging above Poupart's ligament into the rectum, into the folds of the broad ligament, vagina, or bladder. When drained, cicatrices might form and give the patient much trouble afterward. Sometimes sudden death took place. If it was possible always to differentiate these cases from others in which recovery took place after local treatment, they, of course, should be operated upon. This, however, was not always possible, and he had often found, especially in young women, that removal of the tubes and ovaries resulted in a mental condition which showed that it was extremely important, if possible, to preserve these organs. He was not speaking of pain and suffering; many were relieved of these; but he was not absolutely certain that many of them were the same beings they had been before. They seemed to constitute a class in the community by themselves. They knew they were incapable of bearing children like other women, and suffered from mental depression. He therefore believed the conservative work which Dr. Polk was doing, trying to save the tubes and ovaries, while treating them surgically in certain diseased conditions, was in the right direction.

Dr. W. M. Polk said his results from salpingo-oöphorectomy had been good, but he operated chiefly for gross lesions, or well-defined salpingitis and oöphoritis, usually shown by extensive purulent destruction. At the same time, he had not been convinced that many of these patients, and those ordinarily operated upon, would not have gotten well without operative interference, and the question had come forcibly to his mind whether, after all, a woman had not a great deal more to expect of a surgeon than mere relief from pain, or even from danger to life. Like Dr. Lusk, he had found women, at least those under thirty years of age, so often suffer from mental depression and a change of mind when deprived of organs which made them different from their sisters, that he had been led to try measures for their relief without unsexing them. These measures consisted in draining the tubes and excising cysts from the ovaries, which he had not then time to describe in detail. There was no question in his mind but what salpingo-oöphorectomy had been performed too often, for the reason that we had been unable to differentiate cases necessitating the operation from those which did not.

Dr. H. C. Coe referred to a paper, recently read by him, on the ultimate results of salpingo-oöphorectomy, and spoke especially of pain resulting from adhesions after such operations, which, he said, could not be avoided, at least by present known means. Thus many patients suffered as much after as before the operation.

Dr. J. R. Nilsen had found, out of considerable dispensary material, only thirty-six cases calling for salpingo-oöphorectomy, and in none of these had he had occasion to regret doing the operation. In two it was performed for insanity. One patient improved much, but here insanity had been brought about by habitual masturbation since childhood. The more marked the lesions found, the greater had been the improvement after operation; the severer the symptoms coincident with slight lesions, the less the improvement. Where there had been pain on sexual intercourse, improvement followed the operation. Patients not improved were likely to go to another surgeon, and he had seen a number who had been operated upon by others.

Dr. A. P. Dudley distinguished between continuance of pains of the kind existing before the operation for which the patient sought relief, and pains of a different kind after the operation. After the operation hot flashes, and the taking on of fat were common. Other pains, he thought, were due almost invariably to the formation of adhesions, and it was important, in view of this fact, to use a ligature which would be absorbed.

Dr. Goelet said he had made the statement in the Academy that the ultimate results of salpingo-oöphorectomy were not entirely satisfactory in more than half the cases, and it passed without question. This showed the extreme necessity for a thorough trial of other measures first, including electricity.

Dr. Baldy, of Philadelphia, had never seen a case of insanity following the operation, and thought the hot flashes, taking on of fat, and other changes, were only such as occurred at the menopause taking place at the usual period. Speaking of local measures, he referred to electricity as a humbug.

The Chairman said he had been confirmed in the view, by the discussion to-night, that in catarrhal salpingitis, small cysts of the ovaries, and conditions aside from pyosalpinx and larger tumors of the ovaries, removal of these organs was not justifiable. A symptomatic cure could be effected through local applications, galvanism, etc., and no more, if as much, could be said of salpingo-oöphorectomy.

Kansas City Academy of Medicine.—There is to be such an association in Kansas City, Mo.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-sixth Annual Meeting, held at Hotel Kaaterskill, Catskill Mountains, N. Y., July 16 and 17, 1890.

(Continued from p. 106.)

The Winking Test, a paper by DR. CHARLES E. RIDER, of Rochester. The object of the paper was to point out the relation that exists between the ability to close one eye independently of the other and the acuteness of vision. The attention of the writer was directed to this relation by the fact which he had frequently noted, that such persons as surveyors, sportsmen, and others who use one eye for sighting objects, as a rule, close the poorer eye. Noting this, he was led to make a study of a series of cases numbering three hundred. The results obtained were as follows. The term isopia was suggested to indicate those having equal vision in the two eyes, and anisopia to indicate those having unequal vision.

Three hundred cases.			Male.	Female.
Cannot wink			1	30
Isopia	Wink equal		30	33
	Wink unequal		4	27
Anisopia	Wink equal		17	12
	Wink	Better eye	4	12
		Poorer eye	64	66
			120	180

Of anisopic males who wink unequally, ninety-four per cent. wink the poorer eye, and of females, eighty-four and a half per cent. wink the poorer eye.

The practical applications of this test were referred to, and its availability in certain medico-legal cases mentioned.

New Tests for Binocular Vision, by DR. J. A. LIPPINCOTT, of Pittsburg. The tests suggested are the outcome of some observations and experiments, the results of which were published in *Knapp's Archives* for March, 1889, under the title of "Binocular Metamorphopsia Produced by Correcting Glasses." In practice, a convex cylindrical lens of 2 or 2.5 dioptrics, axis vertical, is held before one eye and the patient is asked which side of a card, ten or twelve inches square, held at the reading distance, appears the higher. The question is repeated with the axis of the cylinder horizontal. Then a concave cylinder is substituted for the convex cylinder, etc. The principal advantages which may be claimed for these tests, which are in fact stereoscopic tests without a stereoscope, are their variety and simplicity; and, moreover, the patient can be more closely watched when under observation than if his eyes are hid behind the eye-pieces of the stereoscope.

Can Hypermetropia be Healthfully Outgrown, by DR. B. ALEXANDER RANDALL. The writer claimed that the investigations showing the predominance of hypermetropia and the rarity of emmetropia, had not been properly accepted. The assumption of the prevalence of emmetropia has little basis. and the claim that the hypermetropia, which preponderates in infancy, is really less in childhood and has passed away at maturity, is in conflict with the best attested facts. Even the decrease of the grade of defect from infancy onward is slight, if, indeed, actual. He cited the results of all the investigations, giving data as to the relation of age to refraction. These showed a very slight decrease in the grade of hypermetropia, a decrease which is really surprisingly small in view of the large amount of pathological tendency toward myopia which has been observed. The author, therefore, held that all tendency toward emmetropia and myopia was pathological, not physiological.

Treatment of Muscular Asthenopia and its Results, by DR. HENRY D. NOYES, of New York. The paper was a statistical one, from which certain deductions were drawn. It was based upon a study of one hundred consecutive cases of muscular asthenopia in which prisms were employed. The cases had all been under observation sufficiently long to render the results worthy of study. Coexisting errors of refraction were found in certain cases, but the influence of such errors in the causation of the symptoms was excluded. Among the cases reported there were sixty males and forty females. The occupation of three-fourths of the cases was such as to demand persistent eye-strain. The majority of the patients were in good health, less than forty per cent. being in a feeble condition. The symptoms noted were ocular and general. Among the former were pain, blurring and unsteadiness of print, inability to look at moving objects, inability to look fixedly at any object, difficulty from seeing the nose, photophobia, unsteadiness of the globe, spasm of the accommodation, and conjunctivitis. Among the general symptoms found were headache, which often presented the singular feature of occurring on first waking, and increasing during the day, vertigo, nausea, insomnia, melancholia, pain in remote parts, tenderness over the orbital nerve, and nasal catarrh.

A study of refraction showed emmetropia in 47, hypermetropia in 25, myopia in none, astigmatism in 27, hypermetropic astigmatism in 21, myopic astigmatism in 4, mixed astigmatism in 2, and antimetropia in 1.

The muscles affected were noted as follows: weakness of the externi, 92; weakness of the interni, 4; general weakness of all the muscles, 1. In five cases there was in addition a vertical error. It is to be observed that the proportion of cases of weakness of the externi is not so great as would seem from this report. The proportion is probably about seventy-five per cent.

In the treatment of these cases attention was first paid to the indications presented by the condition of the general health. Many patients had been subjected to general and local treatment without relief. In some cases the use of prisms was at first tentative. In more than half the cases headache was a prominent symptom. It was in most instances relieved by the use of prisms. In some it was lessened, and in a few it was not benefited at all. In the larger number of cases prisms were worn constantly. The final results were: complete relief in 74 cases, moderate relief in 6, no relief in 13, temporary relief in 6.

The report of the Committee on Blindness was then called for and read by the Chairman, DR. LUCIEN HOWE, of Buffalo. The study made by the committee showed that about twenty per cent. of the cases of blindness were due to ophthalmia neonatorum and purulent ophthalmia, and suggested certain means of prevention in the way of legal enactments.

Legislation for the Prevention of Blindness.—DR. HOWE read a paper on this subject. As nearly one-fifth of all the blind in the various asylums are there because of ophthalmia neonatorum, and as nearly all these cases could be cured if seen in the very first stages of the disease, therefore the writer urged the necessity of requiring nurses to report promptly every such case to some proper medical officer. In other countries stringent regulations have been adopted in this respect concerning the duty of midwives, and it was deemed in every way desirable to obtain, as far as possible, here also the enactment of laws similar to that recently passed by the Legislature of New York. This is as follows:

Section 1. Should any midwife or nurse having charge of an infant in this State notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse so having charge of such infant to report the fact in writing, within six hours, to the health officer or some legally qualified practitioner of medicine of the city, town, or district in which the parents of the infant reside.

Section 2. Any failure to comply with the provisions of this act shall be punishable by a fine not to exceed one hundred dollars, or imprisonment not to exceed six months, or both.

Section 3. This act shall take effect on the first of September, 1890.

Purulent Ophthalmia, by DR. J. A. ANDREWS, of New York.—It has been claimed that the gonococcus was the cause of gonorrhœa, and that purulent ophthalmia was due to the same cause. The writer had made a number of examinations to see if the gonococcus was always present in these two affections. He had found the gonococcus in all cases of acute urethral gonorrhœa. In 144 cases of chronic urethral gonorrhœa, he had found it in 108 cases. In the purulent ophthalmia of adults the gonococcus was found in all cases. In the purulent ophthalmia of the new-born, it was found in all cases, 122 in number. In the purulent ophthalmia of infants between the ages of two and three months, it was found in 3 cases out of 9 examined. This makes 364 cases examined, with the discovery of the gonococcus in 322. In nearly all cases the staphylococcus pyogenes aureus was also present.

In the treatment of purulent ophthalmia the uninterrupted application of cold, washing with a saturated solution of boric acid, and the use of a solution of nitrate of silver, not exceeding two per cent., was urged. The solution of nitrate of silver is to be applied once or oftener during the day, according to the indications. If the discharge is not profuse, once a day is sufficient. If the discharge and swelling increase, the application may be made more frequently. Nitrate of silver is not well borne when there is little inflammation. The writer had found experimentally that a two per cent. solution of nitrate of silver destroyed the infective properties of the pus in from six to ten seconds.

Cyst-like Bodies of the Conjunctiva.—DR. ANDREWS also exhibited a drawing of cyst-like bodies of the conjunctiva. These occurred in a child five years of age, whose mother and brother had had trachoma. The child itself had no affection of the cornea or trouble with the eye. The microscope showed that they consisted of hypertrophied conjunctival tissue.

A Form of Xerosis, by DR. CHARLES W. KOLLOCK, of Charleston. The author described a form of disease commonly seen among weak and scrofulous colored children, which differed from xerosis, as commonly seen, in that the conjunctiva is never contracted. The cornea, although more or less affected, is never destroyed, and under proper treatment recovery takes place.

Two Cases of Glaucoma were reported by Dr. Kollock, presenting certain interesting features. In one case, fifty years of age, iridectomy was performed, but the operation was followed by increased tension lasting two days. A four-grain solution of eserine was then instilled every hour. Under this the tension rapidly fell to normal.

A Case of Embolism of the Upper Branch of the Retinal Artery, with Normal Vision, was reported by DR. W. F. MITTENDORF, of New York, in which, owing to the peculiar anatomical arrangement, the macula lutea was supplied by the lower branch of the retinal artery. In the lower part of the field vision was absent, but in the remaining parts of the field it was normal. The treatment consisted of pressure, massage, and digitalis. Vision is now returning in the lower portion of the field.

A Case of Recurrent Irido-choroido Retinitis, by DR. SAMUEL THEOBALD, of Baltimore. Ida R——, aged twenty-five, was seen July 8, 1889. Her general condition was fairly good. There was no evidence of congenital or acquired syphilis. She was suffering from recurrent attacks of inflammation in the left eye, which she said had begun two years before, and had destroyed the sight of that eye six weeks before coming to the hospital. The eye had evidently been the seat of severe irido-choroido retinitis; the right eye showed no signs of disease. Enucleation of the left eye was strongly urged. This was declined. She was put on small doses of iodide of potassium, with instillation of atropia to the affected eye.

December 6th, she again came to the hospital, having had an attack of inflammation in the right eye three weeks before. The eye was somewhat improved, $V = \frac{1}{lxx}$. The left eye was at once enucleated, and atropia applied to the right eye. The next day the ophthalmoscope showed that in the right eye there had been a mild attack of iritis, and slight inflammatory changes could be seen in the retina. Iodide of potassium and biniodide of mercury were ordered, and the eye slowly improved.

December 23d, $V = \frac{1}{1}$.

January 3, 1890, another attack of inflammation suddenly appeared without apparent cause, $V = \frac{1}{cc}$. The iodide was increased to five grains every three hours, and a large blister applied to the nape of the neck.

January 8th, vision had improved to $\frac{1}{xx}$, but there was evidence of commencing iritis. The iodide was now substituted by hydrarg. biniodide, grain $\frac{1}{16}$, three times a day, and application of atropia to the eye. The eye steadily improved, and by January 28th $V = \frac{1}{xlv}$.

February 11th, the inflammation recurred. By March 10th this attack had been recovered from. Another relapse occurred March 28th. As the attacks seemed to recur with a certain degree of regularity, quinia was tried. Under this there was improvement.

May 28th, there was a most severe attack.

June 13th, tension for the first time was found above normal. The condition of the eye steadily grew worse, and June 24th, iridectomy was decided upon as a last resort. It was found impossible to grasp the iris with forceps, and as a result the intended iridectomy was converted into a simple sclerotomy. The effect of the operation was not satisfactory.

January 7th, she left hospital, suffering no pain, but the vitreous was as cloudy as before, and it was impossible to determine that there was even light perception.

Syphilis could be almost certainly excluded in this case. The most probable explanation is that the inflammation was through the medium of the sympathetic or trophic nerves, and was dependent upon pathologic changes in the ganglion centres which have to do with the nutrition of the eye.

A Contribution to Ocular Tumors, by DR. W. H. CARMALT, of New Haven. Four cases of ocular tumors were reported, two of sarcoma of the conjunctiva, and two of glioma. One of the latter was a case of double glioma in an infant a year and a half old. Both eyes were enucleated, and so far there has been no return, a period of one year. In the second case the condition was not diagnosed, as the lens was cataractous, and nothing could be seen. Later on there was great pain, and the eye became disorganized, and was removed. A year later the child again appeared with the orbit filled with a neoplasm. The condition was then recognized. The growth was thoroughly removed and the parts cauterized with chloride of zinc. Five months later, just as healing was about completed, indications of cerebral trouble appeared, and in about ten days the child died. At the autopsy a tumor was found occupying the anterior portion of the brain. A second growth was found in the cerebellum, on the right side.

A Case of Orbital Cellulitis was reported by DR. R. J. McKAY, of Wilmington, Del.

Progressive Astigmatism, by DR. EDWARD JACKSON, of Philadelphia. The author reported seventeen cases in which the increase of the astigmatism in hyperopic eyes had made needful a change of the correcting lenses. Such an increase seems to occur in about two per cent. of all cases. It may be due to chronic congestion of the eye from eye-strain, resembling progressive myopia, or to a congenital tendency of the eye to develop thus asymmetrically. The latter mode of origin was pointed to by the blood relationship of several similar cases. Bearing these cases in mind, the surgeon could not promise that the astigmatism of an eye would remain constant, or assume that a colleague had been mistaken, simply because lenses previously ordered by him did not now suit the case.

Three Noteworthy Cases of Ametropia, by DR. SAMUEL THEOBALD, of Baltimore. The noteworthy feature in these three cases was the existence in each of so much better near vision than the age and refractive condition of the patient appeared to warrant. In two of them (Case I. and III.), it seemed as though the lids were used (as they can be by narrowing the palpebral aperture and altering the corneal curve) to render the retinal image more distinct. In one case (Case II.) it was noted that the pupils were exceedingly small. In Case III. it is noted that the pupils were not unusually small. The detailed histories of the three cases were then given.

CASE I.—Male, aged fifty, suffering with asthenopia, headache, etc. Had never worn glasses for distant vision, but for near vision he used + $\frac{1}{30}$ s.; with this he read Jaeger 1 at eight inches. The ciliary muscle was active. It was found that in the right eye there was H. $\frac{1}{3}$, and in the left H. $\frac{1}{3}$, with As. $\frac{1}{12}$. With this correction vision, which without glasses was only $\frac{20}{c}$ (?), was brought up to $\frac{20}{xx}$ —.

CASE II.—Dr. T——, aged fifty-nine, suffered with asthenopia and hyperæmia of lids and conjunctivæ. The pupils were exceptionally small. For near vision he used + $\frac{1}{18}$ s., reading Jaeger No. 1 with the left eye, and Jaeger No. 2 with right eye. He was found to have in the R. eye H. $\frac{1}{18}$ ($V = \frac{20}{xx}$ +), and in the L. eye H. $\frac{1}{20}$ ($V = \frac{20}{xxx}$). For near vision the best results were obtained with + $\frac{1}{2}$ s. for R. eye, and + $\frac{1}{10}$ s. for L. eye.

CASE III.—Mrs. R——, aged fifty-four, never wore glasses, but had been able to read the small type of a newspaper. Her manifest error of refraction, as corrected, was R. eye + 6 D cyl. ax. 70°; L. eye + 4.25 D cyl. ax. 110°; and in near vision the addition of 1.50 D spher. to these cylinders gave the most satisfactory effect.

An Analysis of the Ocular Symptoms Found in the Third Stage of General Paralysis of the Insane, by DR. CHARLES A. OLIVER, of Philadelphia. In an analysis of some of the ocular symptoms in this disease, the author, after making thirty-three special observations of the motor, sensory, and purely local conditions, arrives at the following summary and conclusions:

1. The oculo-motor symptoms of the third stage of general paralysis of the insane—which consist in varying though marked degrees of loss and enfeeblement of iris response to light stimulus, accommodative effort, and converging power; lessening of ciliary muscle tone and action; weakening and inefficiency of the extra-ocular muscle motion—all show paretic and paralytic disturbances connected with the oculo-motor apparatus itself, all of greater amount and of more serious consequences than those seen in the same apparatus during the second stage of the disease.

2. The sensory changes of the third stage of general paralysis of the insane, which, though similar to those found in the second stage of the disorder, are so pronounced as to show a semi atrophic condition of the optic nerve head, and a marked reduction in amount of both optic nerve and retinal circulations, with consequent lessening of centric and excentric vision for both form and color, all indicate a degenerate condition of the sensory portion of the ocular apparatus, with impairment of sensory nerve action.

3. The peculiar local changes seen in these cases, which consist in conditions of the choroid and retina indicative of more pronounced local disturbance and irritation of these tunics than those found in the second stage of the disease, all represent the result of greater wear and tear given to a more delicate and more greatly weakened organ.

4. Both the motor symptoms and the sensory changes, as thus described in the advanced or third stage of general paralysis of the insane, furnish not only evidence of local disturbance of a more pronounced type than those found in the second stage of the disorder, but plainly show themselves as one of the many peripheral expressions of fast-approaching degeneration and dissolution of nerve-elements, most probably connected with related cortex disintegration and death.

An Elementary Discussion of some Cases of Tipped Spectacle Glasses.—DR. JOHN GREEN, of St. Louis, read a paper on this subject.

A New Operation for Symblepheron was described by DR. GEORGE C. HARLAN, of Philadelphia. In this case the lower portion of the lid was adherent to the eyeball as the result of the inflammation following an injury from molten metal. The lid was first dissected from the eyeball and the skin cut through, except at the attachment at each end. A flap of skin of sufficient size was then dissected below and turned up, so that the fresh surface was applied to the lid and the skin surface took the place of the conjunctiva. The result had been very satisfactory.

Cyst of the Iris Following a Penetrating Wound at the Corneal Margin which Caused Sympathetic Neuro-retinitis, by DRS. S. D. RISLEY and B. ALEXANDER RANDALL, of Philadelphia. A boy, aged ten, was struck on December 12, 1882, by an air-gun dart in the left eye which penetrated to the lens, and its withdrawal was followed by prolapse of the iris. This being irreducible, was drawn out and excised, and healing resulted with a slightly cystoid scar. The right eye had been weak and watering, and on January 22d showed distinct neuro-retinitis, and the vision quickly fell from $\frac{20}{xxv}$ to $\frac{20}{xl}$. Under alteratives and atropine he improved until, with + 2, vision equalled $\frac{20}{xxx}$ + on March 17th, and $\frac{20}{xx}$ on April 18th. Two months later there was a sudden attack of blindness with an epileptoid seizure. A year later vision with the right eye was $\frac{20}{xx}$ and with the left fingers at two feet. In March, 1890, he returned with the left eye red and watery, and with a cyst of the lower part of the iris. Vision nil. Tension slightly diminished. Enucleation was advised. After a delay of two months, during which time the cyst increased in size and vision declined in the right, the eye was enucleated. The microscopic examination has not yet been completed, but there is no sarcoma in the vitreous chamber.

Thrombosis of the Arteria Centralis; Central Vision Unaffected, by DR. O. F. WADSWORTH, of Boston. A young woman, aged twenty-four, had sudden diminution of vision in the left eye. The field was much contracted, but central vision was unaffected. Examination showed plugging of the central artery. The circulation on the macular region was, however, maintained by an anomalous vessel, a retino-ciliary artery.

Dr. F. M. WILSON, of Bridgeport, Conn., presented three specimens of "Filari Ocula Humani."

DR. GEORGE C. HARLAN reported a case of "Temporary Pulsation of the Retinal Arteries Following the Application of Homatropine."

Dr. Harlan also exhibited a modification of the "Noyes Ophthalmoscope."

DR. B. ALEXANDER RANDALL moved that the Society express its approval of the method of nomenclature of prisms suggested by Dr. W. S. Dennett. This was adopted.

The following officers were elected: *President*, Dr. Hasket Derby, of New York; *Vice-President*, Dr. G. C. Harlan, of Philadelphia; *Secretary and Treasurer*, Dr. S. B. St. John, of Hartford, Conn.; *Corresponding Secretary*, Dr. J. S. Prout, of Brooklyn.

The following were elected to membership: Dr. A. E. Ewing, of St. Louis, Mo.; Dr. Neil J. Hepburn, of New York; Dr. Charles M. Culver, of Albany, N. Y.; Dr. Richmond Lennox, of Brooklyn; Dr. Frank W. Ringl, of New York.

The Society then adjourned to meet with the Congress of American Physicians and Surgeons, September, 1891.

The Berlin Poliklinik.—The new University Poliklinik of Orthopœdic Surgery was recently opened at Berlin. Dr. Julius Wolff has been appointed chief surgeon to the institution.

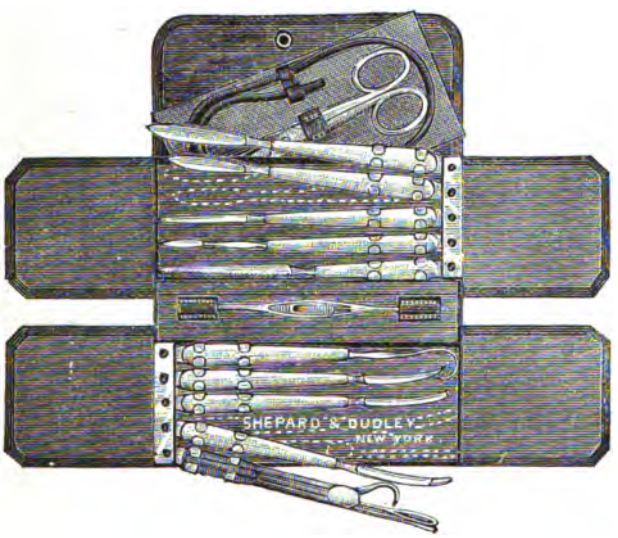
New Instruments.

A NEW ASEPTIC POCKET-CASE.

By WILLIAM R. LEONARD, M.D.,

NEW YORK.

During the last two years a number of articles have appeared in the Medical Record with reference to aseptic pocket-cases. Some of the gentlemen have called special attention to the case itself, while others dwelt more particularly upon the instruments, many of which to my mind are mere toys, as the deviser endeavors to economize space by making the instruments too small for practical use. Then, again, the cases are faulty in construction, lined with velvet. The instruments are placed under loops which give no security to the knives, as one is apt to cut the loop with the blade while pulling out the knife, or pushing it through the distal end by undue force. The sides of the case are not protected, therefore all the instruments are liable to be injured. Even the metal case is objectionable. While carried on the person the slightest motion of the body makes the instruments rattle, which is disagreeable to hear; besides, the noise attracts attention to one's self, which is not pleasant to contemplate. This rattling is apt to injure the instruments by scratching the handles and gapping the blades, making them useless when most needed.



The case here presented is peculiar in construction, the arrangement being wholly original and differing from anything in the pocket-case line ever offered to the profession up to this time. This pocket-case is constructed with a metal plate each side, covered with alligator leather outside, and lined with leather inside that can be sponged off if necessary. These plates prevent the instruments from injury or protruding through the case; also for the purpose of securing clamps, sockets or loops of metal, and either pivoted or hinged. By this construction the clamps or sockets can be moved either laterally or at right angles to the longitudinal axis of the side-plates, as shown in the cut above; the said clamps or sockets being adopted to secure perfectly the handles of the several instruments, and if desired adjusted laterally, as shown by the dotted lines, whereby any instrument may be conveniently and expeditiously extracted or replaced without the fingers coming in contact with the blade. The clamps or sockets are so adjusted to the side-plates that they cannot slide one over the other, therefore making it impossible for the knives to come in contact one with the other; and it will be further observed that the metal side-plates effectually keep the case in shape, being perfectly flat when closed with its contents. It measures $\frac{5}{8}$ inch thick, $2\frac{1}{2}$ inches wide, and $5\frac{1}{2}$ inches long.

The instruments in this case are all metal, and so made that aseptic material cannot find lodgement. They can be boiled or soaked in an antiseptic solution without the slightest injury. The blades and handles being one continuous piece, and full minor size, can be more readily held, easier cleansed, and much more convenient than the old style of pocket instrument made on the plan of a pen-knife, or even the recent turn-arm and slip-catch, so called aseptic for the purpose of catching the unwary. These latter instruments (old style) cannot be boiled or left in antiseptic solution without injury and permanent damage. The following is the list of instruments in the above case: 2 scalpels, medium and small; 1 tenotome; 1 finger-knife; 1 metacarpal saw; 1 tenaculum; 1 curved sharp-pointed bistoury; 1 curved blunt-pointed bistoury; 1 curved fistula bistoury; 1 director and artery needle; 1 exploring needle; 1 pair silver probes; 1 thumb artery and needle forceps, combined; 1 pair straight scissors; 1 silk catheter, needles, silk and silver wire.

The above case is made and for sale by Shepard & Dudley, New York.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 27 to August 2, 1890.

Price, Curtis E., Captain and Assistant Surgeon. With the approval of the Acting Secretary of War, granted leave of absence for ten days. S. O. 175, A. G. O., Washington, D. C., July 29, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 2, 1890.

Blackwood, N. J., Assistant Surgeon. Ordered to duty in the Bureau of Medicine and Surgery.

Wales, P. S., Medical Director. Ordered to duty in charge of the Museum of Hygiene.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 2, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	36	11
Scarlet fever	43	5
Cerebro-spinal meningitis	7	5
Measles	143	11
Diphtheria	83	24
Small-pox	0	0
Varicella	0	0
Pertussis	2	1

Hypnal is the name given to a crystalline compound formed by the mixture of strong solutions of chloral hydrate and antipyrine. Reuter has discovered that its chemical name is tri-chloral-dehyde-phenyl-dimethyl-pyrazol, but Bardet has mercifully called it hypnal. According to a note in the *British Medical Journal*, the latter has found that it is a very active body, which possesses at the same time the sedative and hypnotic properties of its constituents. It acts favorably in doses of one gramme only, and in twenty-two cases where it was administered sleep was obtained with facility. Hypnal is especially useful in insomnia, caused by pain and cough. It has neither the disagreeable taste of antipyrin, the causticity

of chloral hydrate, nor the irritating effects upon the stomach of its two constituents. It can be easily taken, especially by children; and it presents other advantages in consequence of the absence of taste. The process for making hypnal is very simple; it is only necessary to dissolve separately in the smallest possible quantity of water equal parts of chloral-hydrate and antipyrin, upon mixing the solutions a crystalline precipitate falls, which, after washing, can be immediately employed.

A Bad Place for Doctors.—A strange fatality, says the *Denver Republican*, seems to lurk about the office of the physician at the Devil's Lake Indian reservation, on the south side of the great lake. Within the past eighteen months the office has been filled by four different doctors, three of whom are dead and one totally incapacitated for practice.

A New Society, to be known as the Philadelphia Electro-Therapeutic Society, has been organized, with the following officers: President, Dr. G. Betton Massey; Vice-Presidents, Drs. J. Pearson Willits and Matthew J. Grier; Secretary, Dr. Wm. H. Wailing; Treasurer, Dr. J. J. Taylor. It starts with a membership of forty.

New Medical Colleges.—A new medical college will be started next October in Chattanooga, Tenn. It will be known as the Medical Department of the University of the South. It will require high preliminary knowledge and three full courses of lectures. Nebraska has a new medical school. It is located at Lincoln, Neb., and is known as the Medical Department of the Nebraska Christian University.

The Abuse of Hospital Relief.—It is not in London only that the misuse of hospitals is under anxious discussion. A Select Committee of the House of Lords is engaged at this moment in the endeavor to devise a remedy for a state of things which has been made glaringly evident by the testimony of many witnesses. In Melbourne the Medical Society of Victoria is engaged in a similar discussion. The Society has unanimously adopted the following resolutions:

"This Society is of opinion that (*a*) Great imposition on the part of well-to do people is practised at the public hospitals, which is contrary to the principle on which these institutions were founded, and on which they should be conducted. (*b*) All hospitals receiving Government aid annually should be devoted solely to the treatment of the destitute and poor. (*c*) Paying patients should not be admitted into hospitals receiving Government aid granted for the benefit of the destitute and poor. (*d*) A wage limit should be fixed for all hospital patients (*i.e.*, all those earning more than a certain amount should be excluded).

"That the circumstances of each applicant for admission should be investigated by an officer of the hospital appointed for the purpose, who should use wide discretionary power in special cases."

The United States might take a hint from their Australian cousins. As for New York, hints are hopeless persuaders.

The Cholera.—The attempts of the quarantine authorities at ports on the Black Sea and Caspian Sea to exclude cholera from Russia were successful last year when the disease prevailed throughout Mesopotamia and in other parts of Persia; but now, when very little is heard of cholera in the wide region then affected, the disease has gained a foothold at Baku, on the west coast of the Caspian Sea, where the great petroleum wells are situated. It may be difficult to confine it to that district. This epidemic and that which ravaged Mesopotamia last year were caused by the transmission of cholera germs from India by means of the pilgrimages from India to the so-called holy cities near the mouth of the Euphrates, or by the transportation of dead bodies from India to be buried near those cities. The disease might easily have been kept out of Mesopotamia and Europe by the enforcement of simple sanitary regulations at the head of the Persian Gulf.—*New York Times.*

The Microbe of Old Age.—This is the latest addition to the list of micro-organisms. The Italian physician who has just announced its discovery says that it may be transmitted by heredity. It is a dangerous microbe to handle, and young physicians are warned accordingly.

The British Medical Association is to open its meetings in Leeds on Wednesday, September 3d, when Sir F. Abel will deliver his address as President. Following precedent, the British Pharmaceutical Conference will open on Monday evening, September 1st.

A Students' Aid Organization at Paris.—M. Pasteur is the chairman of a committee, formed at the Sorbonne, for the purpose of encouraging foreign students to enter the University of Paris. It is proposed to assist strangers immediately upon their arrival in the city for the purposes of study, and to furnish gratuitously a kind of bureau of information and elementary advice.

The Deficient Water-supply of Paris.—It is a matter of surprise, says *The Lancet*, to all visitors of this gay city that the French, who assume to be in most things in the van of all other nations, should be so very backward in their water and sanitary arrangements in general. Each year as the summer returns a notice is published by the Municipal Council of Paris to the effect that owing to a scarcity of drinking-water this latter will have to be temporarily replaced by water from the Seine. Although only temporarily, the Municipal Council seem to forget that one single draught of this water may be sufficient to cause death, as it is now generally admitted that river water is the vehicle of the germs of typhoid fever, cholera, and of many other epidemic maladies. This arrangement does not extend to all Paris at the same time, but three or four arrondissements in succession are submitted to it for a term of twenty days. The excuse for this lamentable state of things is that the public coffers will not admit of the outlay necessitated by the arrangements for bringing spring water into this city, and yet millions are spent on less necessary purposes. It is all very well to open boulevards and squares, and to plant trees in all directions, but water is as indispensable as air. M. Ferdinand Duval, late Prefect of the Seine, in writing on the subject made the remark that water should not only be in sufficient quantity but in abundance, and a city in which the inhabitants have only a very limited supply of water at their disposal he compared to a ship in distress.

It appears that the senate has just voted the bill for supplying Paris with drinking-water from the Vigne Springs in the Avre Valley. It will be four years, however, before Paris feels the benefit of this decision, as the works cannot be completed before that period.

The Practice of Medicine in France.—According to a proposal recently made by the French Minister of Public Instruction, the lower grade of medical practitioners, *officiers de santé*, is to be abolished, and there is to be a single state examination, which will be the same throughout France. Foreigners will have to undergo all the examinations in order to obtain the licence to practise.

Medical Congress in Japan.—It was inevitable that the Japanese, who have shown so remarkable a power of assimilating the details of Western civilization, should before long hold a Medical Congress. Accordingly, the first gathering of the kind in Japan was held at Tokio, from April 1st to the 7th. In spite of the somewhat inauspicious day chosen for the opening, the meeting was a great success, though only two foreign doctors were present; as there are nearly forty non-Japanese practitioners at Tokio and Yokohama, some disappointment was felt that more of them did not grace the assembly with their presence. It is hinted, however, that the Invitation

Committee was chiefly responsible for the absence of the foreign element. The proceedings were of the usual kind: addresses on various more or less interesting subjects being delivered, cases and inventions, new and old, exhibited, etc. Complaint is made in some quarters that the scientific communications were not sufficiently inspired by the *genius loci*, little or nothing of special interest to the Japanese people being contained in them. As compared with other congresses, festivities seem to have been few and far between, though we are told that on the last day there was a "general social gathering in Shiba Park, at which there was an ample provision for refreshment."—*The British Medical Journal.*

The Study of Medicine in Portugal.—The medical students of the University of Coimbra have addressed a petition to the King of Portugal, praying for the abolition of the examination in Greek, which, by a refinement of cruelty only known to the pedagogic heart, is reserved for the final year of the curriculum. The petitioners, who argue their case with much force, point out that the time allotted to medical study is all too short to enable them to meet the ever-growing requirements of their examiners, and that it is unfair to hamper them with a subject altogether outside their ordinary work just when they should be putting the final touches to their professional training. It appears from this document that the whole period of study which must be gone through by aspirants to a medical degree at Coimbra is fourteen years, of which six are devoted to "secondary" or ordinary school education, three to a preliminary scientific course, and five to purely medical study.

Successful Exsection of a Neoplasm of the Liver.—The surgery of the liver is progressing rapidly, and in Vienna they quite often remove the gall-bladder for cholelithiasis. In a case at Albert's clinic, Hochenegg removed a gall-bladder containing fifty-two gall-stones, and as the walls were carcinomatous he examined the liver carefully for metastasis. He found but one metastatic deposit near the anterior border, removed it with the knife, sewed the peritoneum all around the wound, and finally sewed up the abdomen in such a manner that the wounded liver could be seen from without. The extirpated portion was one by one and one-half inch in size. It is now over nine months since the operation, and there seems to be no recurrence. The case is interesting because it is believed to be the first where a neoplasm was removed from the liver with good result.—Vienna Correspondence, *Medical News*, July 26, 1890.

Medical Inspection of Immigrants by Consular Physicians.—It is stated that the United States Marine Hospital service has decided to establish physicians at every port in Europe from which immigrants embark to this country. These physicians will work under the supervision of the United States Consul at the port where they are stationed. It will be their duty to examine immigrants intending to sail for this port, and to prevent the embarkation of the great army of the lame, the halt, and the blind, who for years have been pouring into this country, only to fill up the county and State pauper institutions. Particular attention will be given to rejecting people suffering from contagious diseases and all affections of a scrofulous nature. The plan proposed has been successfully carried out in connection with the Marine Hospital Service in West Indian and South American ports, and the effect of this protection to the United States in the exclusion of contagious diseases is considered inestimable by the members of the service. Thus, while yellow fever is raging at Santos and Rio Janeiro, Brazil, there is very little danger of its getting into New York, even in the summer season. In connection with this work, the European consuls are expected to also make examination, particularly with regard to criminal cases and those who claim to be citizens of this country. If the candidate proves to be actually a citizen, the consul will issue to him a certificate. It is understood that women about to become mothers will also be included in the class to be kept from embarking.

Eighty Physicians are Members of the French Parliament.—Forty-eight of this number are deputies and thirty-two are senators. How many medical congressmen or senators do the people send to Washington?

The Lunier Prize.—The French Temperance Society against the use of alcoholic beverages have received from Mrs. Lunier one thousand francs, to be called the Lunier prize, to be given to the author of the best essay on the following questions: What are the consequences of hereditary alcoholism, and what are the best means of prevention, or means to limit or lessen its effects? Authors are expected to follow out the lines of inquiry suggested in Lunier's work "On Alcoholisms." The society does not limit this study and research, but wishes it to embrace all the questions of moral, social, and therapeutic means, for prevention and restoration of inebriety. The society will accept parts of printed works, as pamphlets, on this topic that have appeared before January 1, 1890, associated with what has been written since this date, to compete for the prize. All manuscripts should be received before December 31, 1890, and should be addressed, Dr. Motet, secretary-general of the French Temperance Society, 161 rue de Charonne, Paris, France.

Observations on Somnal.—Somnal is a compound or mixture of chloral, urethan, and alcoholic ethyl. It appears as a colorless fluid which, on cooling, takes the form of needle-shaped crystals. It has a bitter taste. It has been tried with good results by Dr. Constantin Paul in articular rheumatism, and also by Dr. Guttmann, who found that it produced a pleasant sleep lasting from six to eight hours, without any bad effects. (*The London Medical Recorder.*) In some cases, however, it fails in its action. Dr. Zagorski, of Warsaw, prefers it to all other hypnotics for the rapidity of its action, the duration and intensity of the sleep, and for the absence of any effects upon the bowels, the heart, the lungs, and the general temperature. The dose recommended is about thirty grains in a little distilled water and syrup of orange. It is deliquescent and soluble in water, and in one-third of its weight in alcohol. Others have treated it as a mixture of uncertain composition, of a bad, bitter taste, and less powerful than chloral. Lutze found it only efficacious in thirty per cent. of his cases, and only useful in fifteen per cent.; and in eight cases of great excitement it was found to act more quickly than in chloral. Drs. Venanzio and Sighicelli, of Milan, have tried somnal in eighty patients in doses of from two to four grammes. In some few cases they went as high as six grammes. The general results observed by these physicians were as follows: Somnal produces no gastric disturbance and neither affects the appetite nor the digestion. Sometimes the pulse becomes more frequent and weaker a little while after taking the drug, but this effect soon passes away. Somnal has no action on the respiration, but sometimes produces a redness of the face dependent upon paralysis of the vessels, which is easily increased by the addition of a small quantity of alcohol. In doses of thirty grains somnal may be used for slight restlessness, but in cases of deep insomnia, dependent on cerebral excitement, it is necessary to give as much as sixty grains, which generally produces a sleep of from five to six hours. It rarely happens that sleep comes on in half an hour; in general it takes about three hours, sometimes even as much as four or five, till the desired effect is obtained. In cases accompanied with mental depression, somnal acts better than where there is much excitement. On the whole, they consider that somnal is a useful hypnotic, from the duration and quality of the sleep which it induces, from its having no bad effects, and also from its small cost. In its therapeutic effects it has a resemblance to its two principal components, chloral and ether.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 7. **Whole No. 1032.** NEW YORK, AUGUST 16, 1890. **$5.00 Per Annum.** **Single Copies, 10c.**

Original Articles.

APPENDICITIS.[1]

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NEW YORK.

THE importance of a proper appreciation of the condition known as appendicitis can scarcely be overestimated when we consider the varied opinions expressed by surgeons of the proper course to pursue in its treatment. One operator will justify the use of the needle, another will consider this procedure dangerous. Others prefer a conservative treatment until an abscess is formed. Others wish to operate immediately before the disease has any of its complications. Some, again, tell us that we are to make a differential diagnosis between a spreading and a circumscribed peritonitis, and if spreading to perform laparotomy; if circumscribed, to wait and open the abscess, if such is present, at any time after a week. They tell us, moreover, that we are to make a differential diagnosis in the first twenty-four, forty-eight, or seventy-two hours of the attack, and in cases of doubt the exploration is less dangerous than delay. On the other hand, physicians who certainly see many of these cases early in course, recount many cases of resolution of the disease in which the local and constitutional symptoms were severe, and in which no recurrences followed. From this medley of opinion we must draw our conclusions in accordance with what we have learned from the histories, imperfectly recorded, and autopsies, indefinitely stated, or made at a time when the disease has already run its course. What we require at the present time is a collection of cases operated upon for this disease, as well as of those cases treated expectantly. From such a comparison we may be able to arrive at a just conclusion in the matter as to what varieties are to be treated in the one or other manner. No method of study, it appears to me, can be considered complete without the records of cases operated upon by abdominal incision, in which are given, as seen at the operation, the exact location and extent of the disease, the variety of the appendicitis, as well as the variety and extent of the complicating peritonitis.

In the Roosevelt Hospital during the last two years fifteen cases have been operated upon in this manner, and carefully recorded histories have been kept. Other cases have been operated upon, but they could not be used, either from the want of accurate histories or from the method of operation.

Of these cases 12 were males and 3 were females. The youngest patient was ten years of age; the oldest was thirty years of age. The average age was seventeen years four months. The duration of the disease from the first attack was, in 1 case, 2 days; in 2 cases, 9 days; in 1 case, 3 days; in 1 case, 12 days; in 2 cases, 4 days; in 1 case, 14 days; in 2 cases, 6 days; in 1 case, 17 days; in 1 case, 8 days; in 2 cases, 5 months; in 1 case 6 years. Twelve of these cases were operated upon in their first attack at periods as follows: second, third, fourth, fourth, sixth, sixth, eighth, ninth, ninth, twelfth, fourteenth, and seventeenth day of the disease. One case was operated upon on the third day of the second attack. The first attack antedated this six years. One case was operated upon on the second day of the third attack. The first attack antedated this five months. One case was operated upon on the nineteenth day of the third attack. The first attack in this case antedated this operation five months.

The location of the appendix in reference to the cæcum was as follows: Below and partly behind the caput coli, 1; behind the caput coli, 8; below the caput coli, touching the anterior abdominal wall, 1; below and partly in front of the caput coli, 1; over the brim of the pelvis internal to the caput coli, 1; inner side of the caput coli, 1; on the anterior surface of the caput coli, 1; behind and to the inner side of the caput coil, 1.

This relation of the appendix to the caput coli is given because of its importance to the surgeon both in the diagnosis of the disease and in the method of operation. The point representing the junction of the cæcum and the vermiform appendix lies opposite a point marked by the middle and lower thirds of a line passing from the umbilicus to the middle of Poupart's ligament. These two facts—the relation of the appendix to the cæcum and point of union of the caput coli and appendix—give the best explanation in many cases for the seat of most intense pain on pressure, as well as in many cases the presence or absence of a distinct tumor in the iliac fossa.

As to the varieties of appendicitis we find four cases of catarrhal appendicitis.

1. A simple catarrhal inflammation with no adhesions except to the caput coli near its base. These adhesions were very slight, and occupied a space easily covered by the end of an ordinary lead-pencil. The operation took place on the fourth day of the first attack. It presented a distinct constriction just below its cæcal extremity.

2. A catarrhal inflammation with minute and isolated purulent foci throughout the walls of the appendix, but with no adhesions between it and the neighboring intestines. It presented a slight constriction near the cæcal end. The operation took place on the fourth day of the first attack. This case appears to represent the step between a well-marked catarrhal and a purulent inflammation of the appendix. This case has been placed in this division simply because its catarrhal character was well marked, and the purulent very slightly so.

3. A simple catarrhal inflammation of the appendix without adhesions. The disease existed only at the very end of the appendix. No constriction was found in the appendix. The operation took place on the third day of the first attack.

4. A chronic catarrhal appendicitis with greatly hypertrophied walls. In this case many strong adhesions bound the appendix to the small intestine and caput coli. It presented a slight constriction near the cæcal end. The operation took place on the second day of the third attack.

There are four cases of suppurative appendicitis.

1. A suppurative appendicitis in which a well-marked constriction existed near the cæcal end, with a perforation just below the constriction. Operation took place on the third day of the second attack. The first attack antedated the present one six years.

2. A suppurative appendicitis in which no perforation nor constriction could be found. The operation took place on the eighth day of the first attack.

3. A suppurative appendicitis showing no constriction nor perforation. The operation took place on the sixth day of the first attack.

4. A suppurative appendicitis in which the appendix

[1] Read before the Fortnightly Medical Society, New York.

was so much damaged that it was impossible to tell accurately about the presence of a constriction. The operation took place on the ninth day of the first attack.

There are five cases of gangrenous appendicitis.

1. A gangrenous appendicitis in which a well-marked constriction was noticed near the cæcal end. The operation took place on the second day of the first attack.

2. A gangrenous appendicitis in which a well-marked constriction existed near the cæcal end. There was a point of perforation just below the constriction. The operation took place on the fourteenth day of the first attack.

3. A gangrenous appendicitis in which was found a large concretion, and in which there was a point of perforation just below the constriction and above the position of the calculus. The operation took place on the sixth day of the first attack.

4. A gangrenous appendicitis in which no constriction could be found. The operation took place on the ninth day of the first attack.

5. A gangrenous appendicitis in which no stenosis was observed. The operation took place on the seventeenth day of the first attack.

Two cases were operated upon on the twelfth and nineteenth days of the first and third attack, respectively, in which no distinct appendix could be recognized. When we examine these cases we find that the five gangrenous appendicites showed a distinct point of perforation in 2 cases; the four suppurative appendicites in 1 case. In 15 cases only 1 case showed a concretion; 7 cases in 15 cases showed a distinct point of constriction nearer the cæcal than the distal end. This fact was impossible to determine in some cases accurately, especially if the constriction occurred near the point of ligature, or where the appendix was already separated from the cæcum, or where the appendix was, more or less, completely destroyed.

The varieties of peritonitis occurring in the course of these cases was as follows: The catarrhal appendicitis (acute) (3) were either not complicated at all by peritonitis (2), or where this existed was limited to a few adhesions here and there between the appendix and the neighboring intestines (1). The exudate consisted of fibrine alone. The single case of chronic catarrhal appendicitis presented well-marked and very dense adhesions to the intestines, cæcum, and iliac fossa. The purulent appendicitis (4) presented in all cases a peritonitis fibrino-purulent and purulent. The gangrenous appendicitis presented either a fibrino-purulent and purulent peritonitis or one attended with a foul-smelling sero-fibrinous exudate. In ten cases this peritonitis was circumscribed. In three cases it was circumscribed and diffuse, *i.e.*, progressive. The circumscribed peritonitis was present—

1. In a case of acute catarrhal appendicitis. The peritonitis was fibrinous.

2. In a chronic catarrhal appendicitis operated upon on the third attack. The peritonitis was one in which dense and strong connective tissue bound together the appendix, cæcum, intestines, and peritoneum covering the iliac fossa.

3. In four cases of purulent appendicitis where the operation occurred upon the third day of the second attack, and upon sixth, eighth, and ninth days of the first attack. In these the peritonitis was fibrino-purulent and purulent.

4. In two cases of gangrenous appendicitis operated upon on ninth and seventeenth days of the first attack. The peritonitis was fibrino-purulent or purulent. If we include in these cases the two cases in which no distinct appendix could be demonstrated, we will have four cases of gangrenous appendicitis followed by a circumscribed fibrino purulent and purulent peritonitis, and operated upon the ninth, twelfth, seventeenth, and nineteenth days of the first attack.

The circumscribed and diffuse peritonitis combined (*i.e.*, the progressive) was present in three cases of gangrenous appendicitis.

1. The operation took place upon the fourteenth day of the first attack. The peritoneum in the immediate neighborhood of the appendix was covered with a sero-fibrinous exudate. In the rest of the peritoneal cavity, except in the neighborhood of the diaphragm, the exudate was either fibrinous, fibrino-purulent, or purulent. This variety of exudate was about equally present in every region examined. The fluid within the cavity was sero-fibrinous, bad-smelling, and in places somewhat greenish in hue, and attended with the formation of gas. The presence of gas was evident in the immediate neighborhood of the appendix, but throughout the rest of the abdominal cavity it was wanting.

2. The operation took place on the sixth day of the first attack. In the immediate neighborhood of the appendix the exudate was distinctly purulent. Beyond the appendix, between the coils of intestines, the exudate was sero-fibrinous and bad-smelling.

3. The operation took place upon the second day of the first attack. The exudate both in the neighborhood of the appendix and beyond it was distinctly fibrino-purulent and purulent.

The height of the temperature seems to be of very little value in telling one the conditions within the abdomen, either in reference to the condition of the appendix or the complicating peritonitis.

Two cases of simple catarrhal appendicitis with no adhesions had no rise of temperature. One case of simple catarrhal appendicitis with small purulent foci (a beginning purulent appendicitis) had a temperature of 102° F. One case of chronic catarrhal appendicitis during such a circumscribed fibrinous peritonitis, the third attack, had a temperature of 102° F. In four cases of purulent appendicitis with circumscribed fibrino-purulent and purulent peritonitis the temperature was 100.4°, 103.4°, 100°, 100° F. In four cases of gangrenous appendicitis with circumscribed fibrino-purulent peritonitis the temperature was 101⅘, 100°, 101°, 99° F. In three cases of gangrenous appendicitis with a circumscribed and diffuse peritonitis (*i.e.*, progressive) the temperature was 101° F.; one not known, 103° F.

These were the temperatures taken upon admission and do not represent the elevation of temperature at the commencement of the attack. The height of the temperature has no value, but a remittent or intermittent one is of great value when considered with other important symptoms.

The temperatures following the operation were practically normal, except in two cases of gangrenous appendicitis with diffuse progressive peritonitis which died.

The average time required in the treatment of these cases was forty days. The number of deaths occurring in these cases was three.

1. On the second day after the operation.
2. At the end of the third week.
3. Fourteen hours after operation.

The causes of death were:

1. Diffuse septic peritonitis—septicæmia.
2. Diffuse septic peritonitis—septic pneumonia-pymiaæ.
3. Circumscribed peritonitis—septicæmia.

If we divide our cases into the four varieties included in this list we can give three cases of catarrhal appendicitis with no adhesions present, in one of which the appendix showed purulent foci not yet involving, however, the peritoneal coat. They were, practically, cases of catarrhal appendicitis and were operated upon the third and fourth days of their first attack. In none were adhesions present. In two, stenosis more or less marked existed at the cæcal end. In two cases the temperature was normal at the time of operation. In one case with purulent foci the temperature was 102° F. In two of these cases the pain, which was at first general, was localized on the second day to the right iliac fossa.

We have one case of chronic catarrhal appendicitis

which was operated upon the second day of the third attack. It showed a chronic catarrhal inflammation with greatly hypertrophied walls. Stenosis was present near the cæcal end, and chronic plastic peritonitis was present. The temperature during this attack was 102° F. The pain was at first general, and was localized in the right iliac fossa on the second day.

We have also four cases of suppurative appendicitis. These cases were operated upon the third day of the second attack (the first attack was six years before), and upon the sixth, eighth, and ninth days of the first attack. Stenosis was marked in one case in which there existed a perforation. In the other three cases such was not noticed. No calculus was present in any of these cases. The peritonitis in all was fibrino-purulent, or purulent and circumscribed. The temperature was 100.4°, 103.4°, 102°, 100° F. They were all characterized by general abdominal pain, which was localized in the right iliac fossa on the first, second, and fourth days. In none of these cases was tympanites marked, and in none was prostration to any extent evident.

Of the gangrenous appendicitis we have five cases. They were operated upon the second, sixth, ninth, fourteenth, and seventeenth days of the first attack, and if we include in this variety those cases in which no distinct appendix could be found we have 2 cases operated upon the twelfth and nineteenth days of the first attack. In two cases stenosis was present, and in one a calculus was found. In 2 cases a perforation existed. In all cases the variety of peritonitis, fibrino-purulent and purulent, or a foul-smelling fibrinous exudation, was present upon the intestines. In 4 of the cases the peritonitis was circumscribed and fibrino-purulent and purulent, and in 3 cases there was circumscribed and diffuse peritonitis (*i.e.*, progressive), and the exudation was fibrino-purulent or fibrino-serous, with gas formation. The temperature in those with circumscribed peritonitis was 101⅘°, 100.4°, 103° F. In those cases with a progressive peritonitis it was 101°, 103° F. not known.

The pain in three cases was at first general, and was localized in the iliac fossa, in 1 case upon the third day, in 1 upon the fourth day, and in 1 the exact day could not be determined. In 2 cases the pain was in the right iliac fossa from the commencement of the attack. In the other cases the statements of the patients could not be relied upon. Tympanites was present in 3 cases, and wanting, or at least slightly marked, in 2 cases. Prostration was noticed in 4 cases, and of these 3 died.

I wish here to state that all cases of chronic catarrhal appendicites do not by any means show the conditions existing in the above case. I have seen 3 such cases which were operated upon in their third, fourth, and fifth attacks, in which no adhesions existed between the appendix and the surrounding intestines. Their walls were greatly hypertrophied, and presented, near their cæcal ends, constrictions, but the peritoneal coat was in all cases absolutely uninvolved. (Though these cases were operated upon by abdominal incision they could not be used for want of accurate histories.)

These fifteen cases appear to me simply as degrees of infection in an appendix already the seat of a catarrhal inflammation with a stenosis at the cæcal end, the result of the inflammatory swelling alone, or of a previous inflammation, with new connective-tissue formation. There appear to be no accurate symptoms which will allow one to state definitely either the condition of the appendix or the probable course of the disease, except the presence or absence of its complicating peritonitis. Nor does the severity or mildness of the initial symptoms seem to give us anything valuable either in a diagnostic or prognostic sense. We cannot regulate the condition within the appendix by time alone, as many, I think, suppose. We have seen in these cases alone catarrhal appendicitis on the third and fourth days, a catarrhal appendicitis with purulent foci within the walls of the appendix and with an intact peritoneal investment on the fourth day.

On the third day of the second attack a purulent appendicitis with a circumscribed fibrino-purulent peritonitis was present, and upon the sixth and eighth days of the first attack the same condition has existed with the same intensity in symptoms.

Moreover, upon the sixth, ninth, and seventeenth days of the first attack we have found the appendix gangrenous, with a circumscribed peritonitis; and upon the second, twelfth, and fourteenth days of the first attack the appendix was found gangrenous, with a circumscribed and diffuse peritonitis. The temperature elevation has been of no value in these cases in a diagnostic sense. The severer cases often run their course with very little elevation of temperature. What is of more value is the remittent or intermittent character of the temperature.

Yet there are symptoms which seem to be diagnostic of appendicitis in some of its phases. In that variety where the perforation is sudden, no matter whether it be from an appendix free from adhesions or from the small abscess cavity in which the appendix lies, and the whole peritoneal cavity is at once invaded, the thready and rapid pulse, the cold perspiration, the cool extremities, and the moderate cyanosis, with or without a tensely contracted abdomen and distention of the abdominal cavity, are symptoms of value, especially when combined with a severe circumscribed or diffuse pain starting from the right iliac fossa. Though the vermiform process may be found in all portions of the abdomen except in the left hypochondriac and lumbar regions, the pain, when localized in the right iliac fossa, is important and is reliable in diagnosis. Moreover, in just this variety the history is of extreme importance, for we find it occurring either during the course of a well-marked appendicitis from rupture of the abscess (the cavity in which the appendix lies), or we find that preceding the present severe symptoms there is a history of previous attacks of appendicitis occurring with some regularity. Should the latter not be the case, the history is often one of severe intestinal colic treated from time to time. In the diagnosis of any case of appendicitis we are to always consider the great variety of conditions which may simulate it. In the acute cases the peritonitis is sometimes the first symptom, and if no trauma existed it is no easy matter to decide upon the focus. Many other processes may lead to a peritonitis under similar circumstances. Every abdominal organ when diseased—echinococcus cysts, incarcerated volvulus, ileus, and typhoid fever may simulate perfectly cases of appendicitis attended with a perforative (*i.e.*, septic or progressive) peritonitis. Twelve cases of appendicitis which ran their course without other symptoms than those of an internal strangulation of the intestines have been reported by Ransohoff. I have myself seen two such cases in which an operation was performed for an internal strangulation, and which proved to be intestinal obstruction from adhesion to the wall of the abscess formed by a gangrenous appendix. I know of two cases of multiple abscess on the liver due to an appendicitis, with phlebitis in the ileo-cæcal vein, in which the diagnosis was impossible either from the history or the symptoms at the time of operation. I firmly believe that many cases are due to an extension of inflammation from the cæcum, and should this remain catarrhal may resolve in ten days to two weeks.

That such cases do occur there can scarcely be a doubt. Certainly many have had the symptoms belonging to an inflammation in this organ and have never had a second attack, and that period of immunity has lasted six, eight, to ten years. Such results, so far as I can ascertain from comparison with the early cases removed, depend entirely upon the grade of the appendicitis and the obstruction to the escape of the contents into the cæcum from the swelling of the mucous membrane at the cæcal end, or possibly to inspissated fecal masses in the cæcum. Such cases cannot be diagnosticated, however, from those in which stenosis exists and persists at the cæcal end, and which run their course as an intestinal catarrh, with colic, slight fever,

no tumor and no dulness, since the appendix is behind the cæcum, but which eventually give rise to circumscribed or progressive peritonitis from perforation or gradual extension of the inflammatory process. The slower such a process advances the easier the diagnosis. Our duty is to recognize as early as possible the position of the focus, the extent of the peritonitis, and the position of the puriform collection. An examination every few hours for the percussion note, the pain, and the resistance over the appendix will allow one to decide upon the circumscribed or diffuse character of the peritonitis. The increase and extension of the area in which the symptoms are found, together with a continuous high temperatue or a temperature with a repeated rise and short remission, lead us to think of a progressive, and possibly a diffuse, peritonitis, with the formation of new foci within the peritoneal cavity. A matter never to be omitted in the diagnosis of these cases is the rectal and vaginal examinations, as well as the presence of the Howship-Romberg symptoms. These are of extreme importance in locating the position of the focus, as well as in selecting the proper place for incision.

Our methods of treatment in the complications following appendicitis have not yet arrived at that point of perfection where we can feel certain, or even moderately so, of overcoming the disease when it has already advanced in its course. Although from the class of cases seen by the surgeon in the majority of cases early interference alone seems the proper course, still, the fact that we are opening up a field for infection, the extent of which is nearly equal to the entire cutaneous surface, and the rapidity of absorption is equal to three to eight per cent. of one's weight of fluid in an hour, is not to be viewed without concern. Nor can the danger of a peritonitis originating from the intestinal canal, of a perityphlitic abscess, of a fibrinous or fibrino-purulent peritonitis if no abscess exist, or of a gangrenous appendix, be entirely overlooked. Such infective foci are best treated when removed completely. When the disturbance in the absorptive and transudative processes in the peritoneum is negatived the decomposition of exudate within this dead space is stopped, and the amount of poison produced is reduced to that which can be absorbed and eliminated by the excretory organs. On the other hand, the peritoneum is a very tolerant surface to infection under conditions where aid is given to encapsulate that poison by the removal of the focus of infection and the relief of the passive hyperæmia in the neighboring peritoneal coat, so necessary for the growth and extension of the infection. Such aid is best secured by the limitation of the infection to an area over which we have complete control by antiseptic measures and drainage. We cannot compare in virulence, as many wish to, the perforative peritonitis from the vermiform appendix with those from the stomach or upper portion of the intestinal tract. The conditions for advance of the perforation are entirely different. The infectious peritonitis following perforation of the stomach or of the upper intestinal tract, even if encapsulated in the supraomental space, is more frequently followed by septic or progressive and diffuse peritonitis from the peristaltic action of the intestines than is the case with the vermiform process, or occurs in puerperal peritonitis, where adhesions inclose the infecting focus and retard its advance. Nor do I believe that much reliance can be based upon the fact that the slow ulceration which generally follows in the vermiform process, and the small amount and hardness of its contents render it less dangerous, as many suppose. If the focus remain, though encapsulated, it is subject to injury from slight errors in diet, vomiting, purging, etc., and at any time we may have here, as in every true phlegmon within the peritoneal cavity, the danger of the extension of the inflammatory process. In the treatment of this disease we should decide upon one or another method, depending upon what the pathological condition is. The indiscriminate use of any one method for all cases, though it may relieve many, is certainly not very surgical when we compare the dangers of the various methods with the dangers of the variety of disease.

We will divide these cases into—1, those in which in the first attack a complicating peritonitis already exists at the time we see it, either a septic, progressive, or circumscribed; 2, into those in which the disease, as yet, is confined entirely to the vermiform process—catarrhal appendicitis; 3, into those in which recurrent attacks of catarrhal appendicitis have occurred, and in which adhesions have bound the appendix to the cæcum, intestines, or peritoneum, over the iliac fossa or not.

In the acute and peracute infectious peritonitis, depending either upon rupture of the vermiform process or of the abscess cavity about it, and in which we find the symptoms of a marked intoxication, whatever is to be done must be accomplished at once.

In the peritoneal cavity we find either the peritoneum slightly infected and covered with a vail of thin fibrinous exudate, or, more rarely, this exudate is thick. The fluid exudate varies in amount and kind. It is either bloody, serous, comparatively odorless, and small in amount, or bad-smelling and stinking, and in large amount, and generally found most abundantly in the region of the kidneys and in the smaller pelvis. The whole peritoneum seems infected, except possibly in the region of the diaphragm. The most striking characteristic of this form is the absence of adhesions and the localization of the infecting focus.

In this class we all admit that the only chance lies in operative interference. We must also admit that, so far, the attempts have been almost absolutely unsuccessful. Only in the very early operation, and in a patient in relatively good condition, can we hope, with our present means, to save a case. Our bad results to-day seem to be due to our inability to thoroughly disinfect the peritoneum and to limit the amount of infection, either by liberation of the exudate, washing, sponging, or drainage. The intensity of the infection, the sudden onset, the want of encapsulation, and the great absorptive power of the peritoneum are more than equalled by our ability to disinfect thoroughly, to drain properly, and to act at a time when the infection has not already overwhelmed the patient.

In the second form of peritonitis the whole peritoneum is not attacked at once. The course of the disease is not so rapid. It is subacute, or at most acute. It advances gradually from the focus of infection, either by small perforations which are quickly encapsulated, or by a gradual extension of the process *per contiguitatum*. The characteristic of this form is the encapsulation of the advancing area by peritoneal adhesions or by fibrino-purulent exudates upon the peritoneum covering the intestines; within the spaces left by these adhesions a fluid, purulent exudate is formed. These centres are separated from one another by coils of intestines, and constitute *en essence* separate and distinct abscess cavities between the intestines. This process advances until the whole peritoneal cavity is involved. The involvement of the whole peritoneal cavity rarely occurs in this form, however, as death occurs before it has advanced to this extent. Of course, the slower such a process advances the more marked are the adhesions and the encapsulation of the primary exudate and the more the exudate resembles a true pus. In very slow cases the purulent foci may empty externally or into an internal organ and a natural cure result. More frequently, however, the patient succumbs before this stage is present, or dies of pyæmia. Between this variety and the former—septic peritonitis—there are many variations in degree, so that it is often very difficult to decide to which of the classes any particular case belongs. The more and more any variety approaches the progressive peritonitis the better will be the prognosis, for these adhesions enclosing the separate foci offer a protection more or less complete against the further involvement of the intact peritoneum. These adhesions must in every operative procedure be left untouched, should it be possible to do it, and at the same time liber-

ate completely the exudation. I am fully convinced that some cases of progressive peritonitis are followed by death, shortly after operation, from a too extensive breaking up of these adhesions and the induction of a diffuse and septic peritonitis, *i.e.*, peritoneal sepsis.

Our duty in this class of cases is to see clearly and to thoroughly remove the primary foci (or at least to render it innocuous), and with the utmost care to open separately the isolated foci, without endangering the intact peritoneum, if possible. So far as the circumscribed peritonitis complicating appendicitis is concerned, we should treat it according to the recognized rules of surgery. It cannot be doubted that to wait for the absorption of such a focus is attended with too much danger of its extension to the peritoneum, of its rupture into the bladder or rectum, or of pylephlebitis or pyæmia. Nor do I think it justifiable, in order to determine whether more or less purulent fluid is present, to make use of the needle. I cannot believe that the puncture of the intestines can be done without danger. In so doing we expose our patient to the very danger we are expected to avoid. In many of the cases I have seen, the position of the abscess was such that, had the needle been used, in fully one-third the intestines would have been punctured. Nor do I see any advantage in waiting until the tumor is larger and certainly contains pus, in order to operate extraperitoneally. The want of a complete resolution and the presence of a circumscribed peritonitis are sufficient grounds for an exploratory incision, performed either in the outer border of the rectus, if Dr. Sands's operation is to be performed, or if not, a median exploratory laparotomy, and an extraperitoneal operation for drainage alone.

In the chronic catarrhal appendicitis which I have seen, the condition has always been one in which the walls of the vermiform process were hypertrophied, and in which a well-marked stenosis existed near the cæcal end. The cavity below the constriction contained very little or no appreciable amount of fluid (not true pus).

Of the cases which I have seen, three were operated upon in their third, fourth, and fifth attacks, and had no adhesions to the intestines about them. One, stated in this paper, had marked adhesions, and was operated upon on the second day of the third attack. These cases are what we call recurrent appendicitis, which we imagine undergo a complete resolution after each attack, or what is called recurrent appendicitis without a complicating peritonitis. I think from the number of attacks, from the condition found within the appendix, and from the relief from subsequent attacks and the uninterrupted course of recovery from the operation, we are justified in operative procedure in all such cases as being the only means of absolute relief. These cases all run their course as simple catarrhal appendicitis, with or without involvement of the peritoneum, *i.e.*, plastic peritonitis; but we must remember that this is not always the outcome of our recurrent cases. Both suppurative and gangrenous appendicitis occur sufficiently often (6–21 Roux) in recurrent appendicitis to render our prognosis very uncertain as to the outcome of any given case. Such varieties occur not only in the earlier recurrences, but even at periods varying from five to seven years. An example of such a case is to be seen in two of the suppurative peritonitis here recorded.

The circumscribed suppurative peritonitis was present at the time of the operation, *i.e.*, third day of the second attack, whereas the first attack was six years before.

Many other examples may be found in the recent articles upon appendicitis, especially Hemans, Worcester, and Roux. I remember only too well two cases occurring, ot physicians in this city, of diffuse septic peritonitis as the result of a recurrent appendicitis. In my own opinion, the recurrence of the appendicitis means a condition of the vermiform appendix requiring its removal to do away with the danger of subsequent attacks. In the acute catarrhal appendicitis seen in their first attack we are unable to tell from any of the prominent symptoms what will be the outcome; and yet we are all aware that by far the greater number recover from their first attack with at least an apparent resolution, and that about twenty-two per cent. (Kraft), eleven per cent. (Fitz), of these cases have recurrences sooner or later, which may take any course ending in peritonitis—septic, progressive, and circumscribed—in phlebitis, perforations into other organs, or in pyæmia. I do not believe that every acute case means operation, although I must admit that the majority of cases I have seen operated upon were compli cated with either peritonitis in one of the above forms, or failed to undergo a complete resolution. The best course to pursue in these acute cases is the expectant one, unless a complicating peritonitis is present or resolution does not occur early, when an immediate operation is the only proper course. The future method of study should be directed to this end, viz., to know how many cases have recurrences, the character of the recurrences, the characteristics of the cases which recover and in which no recurrences take place, as well as the relative number of cases having complications during their first attacks. Until the disease is studied in this particular, the opinions of the surgeons and physicians will be at variance. Certainly from the stand-point from which the surgeon views this disease, seeing it before and during the operation, seeing constantly his inability to diagnosticate the conditions exactly, the belief in the operative treatment is not to be wondered at. The condition of the appendix cannot be determined accurately, so far as symptoms are concerned, and must, I think, after all, be made out entirely from an acquaintance with the disease as seen by those who make use of the abdominal incision, and who see clearly each time they operate the exact condition about and within the appendix.

As to the method of treatment to be carried out in these cases I certainly favor that one inaugurated by the late Dr. H. B. Sands, the object of which is to obtain a clear and complete view of the appendix; to remove the appendix, or at least render it innocuous; to render all dead spaces aseptic, and to maintain them so by drainage.

The incision to the outer border of the rectus muscle has the advantage of approaching the appendix at its point of union with the cæcum. The general rule, however, is to make the incision over the point of the tumefaction, so as to expose clearly and distinctly the focus. In suitable cases, either from the location of the abscess or in pro gressive peritonitis with puriform collections between the intestines, this lateral may be combined with a median laparotomy.

The danger of infecting the intact peritoneum is not great, if care is taken by the assistant, even when a large quantity of pus is present. Only those adhesions which bind the intestines over the focus should be separated. All other adhesions should be left undisturbed, unless one suspects behind them collections of purulent fluid. In this manner the smallest possible danger is offered for the infection of the intact peritoneum, as the assistant has only a small area of intact peritoneum to protect.

The treatment of the cavity left after removal of the fluid and the appendix is, I think, often overdone. The rubbing of iodoform powder over this surface with the finger, or the gentle sponging with 1 to 500 or 1 to 1,000 $HgCl_2$ is sufficient.

Irrigation of these cavities, under high pressure by means of tubes in the depth of the wound, which cannot be seen and controlled, is dangerous from rupturing of adhesions and infection of the general cavity. Irrigation under low pressure, with tubes which can be controlled, has no great advantage over the sponge or iodoform powder.

These exudates upon the intestines, forming the walls of the cavity, although they contain masses of bacteria, are to be looked upon as nearly harmless in the place where the exudate exists, for absorption here is greatly diminished. They are able, by remaining, to give rise to abscess of greater or less extent; yet it is more dangerous to remove

or injure them to any extent and to open up ways of infection. One can rely upon the gentlest sponging of these cavities with 1 to 500 or 1 to 1,000, or iodoform powder, if he will add to this some method of complete drainage.

In reference to the drainage of these cavities I have made use of a posterior drainage in several cases, in addition to the drainage through the anterior wound. The anterior tube and gauze, where the posterior is used in addition, can generally be withdrawn early. Indeed in most cases which I have seen the anterior drainage is of little value after a day or two, if the posterior tube fits well, is large, and is placed at the bottom of the cavity. Another advantage offered by the posterior tube is the possibility of bringing together the wound in the abdominal parietes much sooner and avoiding the tendency to a subsequent hernia.

This is a point to be considered in this operation. I have seen, myself, five cases of hernia following this operation, and I have heard of others. In one of the cases I saw the hernia was a strangulated one which was reduced by taxis.

This posterior drainage also has an advantage in those cases of circumscribed peritonitis with appendicitis where the abscess is situated in the iliac fossa behind the cæcum, or close to it, and where the tissues are sloughy and where the appendix as such cannot be recognized. These are the cases often followed by herniæ or fistulæ, and in just these cases, if the posterior drainage is complete, these dangers are reduced to a minimum. In inserting the tube I have protected the cæcum and small intestines forming the wall of the cavity with my right hand spread out in the shape of a cup; then, with the left hand, cut from without inward, as near as the outer border of the quadratus lumborum as possible, and thus entered the bottom of the abscess cavity. Where these cavities exist in the smaller pelvis the question of draining into the vagina rectum and extra-rectal drainage are to be considered.

In the catarrhal appendicitis in which no complicating peritonitis exists, this care in drainage is not necessary. Such cases are best treated when closed immediately. Parker's operation is to be used only when pus is obtained close to the abdominal wall and near the anterior superior spine. It is a method which will be of great use and attended with very slight danger, but will only be advisable in the older cases.

I must acknowledge my thanks to Dr. Charles McBurney, who has allowed me to make use of these cases.

7 West Thirty-first Street.

THE FORMS OF CEREBRAL HEMORRHAGE.[1]

By CHARLES L. DANA, M.D.,

New York.

I. Ingravescent or Progressive Apoplexy, with Comments on the Question of Surgical Treatment.—There are three sets of intra-cranial blood-vessels, those in the dura mater, those in the pia mater, and those in the substance of the brain. We have correspondingly three types of intra-cranial hemorrhage: the dural, or pachymeningeal, the pial or subarachnoid, and the central (including cerebellar and pons hemorrhages).

The central hemorrhages are far the most common, and present a tolerably uniform clinical type.

There is one form, however, which seems to have escaped critical attention, though it cannot be excessively rare. It is of this I wish to speak first.

In 1876 Dr. Broadbent reported six cases[2] of what he termed "ingravescent apoplexy." It was a form of apoplexy characterized in its onset by sudden headache, vertigo, sometimes vomiting, but without loss of consciousness. Complete hemiplegia, with hemianæsthesia, rapidly sets in. The patient becomes somnolent, stupid, and finally comatose. Death invariably occurs at the end of from one to five days, with characteristic respiratory disturbances and rise of temperature. The clinical features of this type, as described by Dr. Broadbent, were its onset without loss of consciousness, the hemiplegia, with anæsthesia, the steadily progressive course, and fatal termination.

After death the hemorrhage was found to involve the white matter posterior to the outer segment of the lenticular nucleus, and to cleave its way forward into the external capsule. It involved the internal capsule in its more posterior part, and it finally broke into the lateral ventricle. The vessel affected in these cases is evidently one of the posterior branches of the external lenticular artery.

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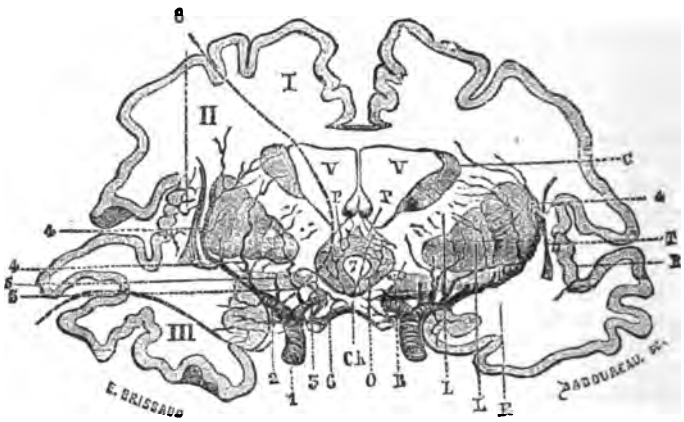

Fig. 1.—Vertical Section of Cerebrum at Level of Anterior Border of Præcentral Convolution, showing clot cleaving through external capsule.

I have met two cases presenting the general clinical characters of ingravescent apoplexy, but was able to make an autopsy upon only one, of which the history is as follows:

A woman, aged thirty-four, was brought to the hospital May 1st, without any history. She was in a stupid condition but not unconscious, and she was at first thought to be intoxicated. Examination showed, however, some hemianalgesia of the left side, and slight hemiplegia of this side. The right pupil was slightly contracted, temperature normal, pulse tense. Next day the patient's mind was slightly clearer; she answered questions and recognized those about her. But her hemiplegia was very much worse, and her analgesia no better. Toward night she became more stupid, and finally comatose; œdema of the lungs developed. No contractures of the paralyzed side were noted. The temperature rose. She died the next day, May 3d. At the autopsy the brain was found congested. Pressure over the left supra-marginal gyrus showed that there was a softened place beneath it. The brain was placed in boroglycerine and alcohol, and opened later by vertical sections. These showed a clot in the left lateral ventricle and some blood in the third ventricle. Beneath the supra-marginal gyrus was a large hemorrhagic focus about an inch and a half in diameter. This extended forward and downward, cleaving the external capsule. The hemorrhage had finally extended down and inward, and broken into the lateral ventricle, as shown in the cuts.

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[2] The Lancet, London, 1876, p. 887.

Comments.—Puesch has attempted, on the slender basis of seven cases, to erect "ingravescent," or, as he calls it, "progressive," apoplexy into a distinct type. This seems to me somewhat premature. The history of my case is not exactly like those of Broadbent's in respect to retention of consciousness; and the hemiplegia was relatively less marked. Yet anatomically it was one of the "cleaving" hemorrhages due to rupture of a posterior branch of a lenticular artery, and running the same course as was described by Broadbent. The hemianæsthesia seems to me to be a very distinctive point.

Practically the question comes up whether in such cases trephining would be justifiable. In general, the idea of trephining for non-traumatic hemorrhage is not to be entertained at all. But in ingravescent apoplexy it deserves consideration because the hemorrhage here is accessible, and because, unless some relief is given, it will surely break into the lateral ventricle and kill the patient. In all the reported cases, also, the patients are not old—not above fifty years of age—are not syphilitic, and presumably have not extensively diseased arteries.

In my own case, if the original focus of the disease had been reached on the first or second day, it is most unlikely that the hemorrhage could have torn its way into the lateral ventricle.

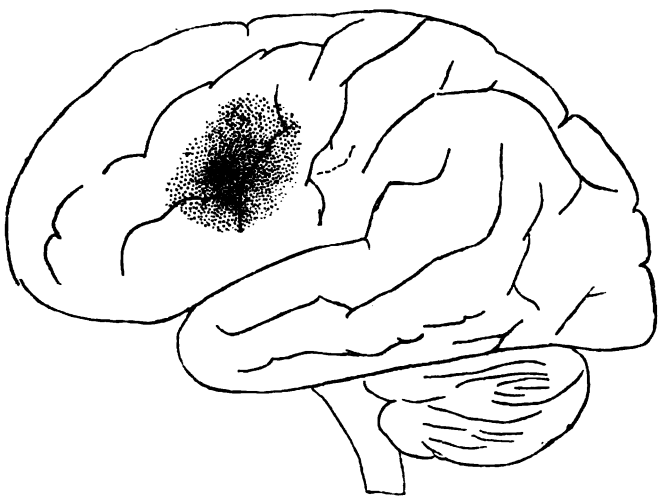

FIG. 2.—Section at Level of Posterior Border of Postcentral Convolution, showing original site of clot.

In reaching hemorrhages in these cases, the best place to trephine would be a little below and in front of the parietal eminence. The surgeon should then explore downward and forward, remembering that he must not injure the terminal branches of the Sylvian artery, which are in this neighborhood. The needle or probe may be plunged into the brain for from one and one-half to two and one-third inches.

To reach the internal capsule in its anterior or middle parts, the common seat of cerebral hemorrhage, a different route must be selected. From some experiments on the cadaver, I should recommend that a point be found midway between the anterior and posterior ends of the corpus striatum and optic thalamus, respectively (*vide* Rule X. in my rules for cranio-cerebral topography). Trephine here at a point one and a half inch from the median line. Plunge the needle directly down for one and a half to two and one-third inches. The ganglia lie about one and a half inch below the superior convex surface of the brain.

In cases of "ingravescent" apoplexy, surgical interference, if undertaken, must be before the blood breaks into the ventricles. This can be told by the sudden increase in the severity of the symptoms, and if the blood is poured in rapidly by contractures on the paralyzed side. In "ingravescent apoplexy," however, the rule is, contractures are not usually noted, probably because the rupture into the ventricle is a small one and the blood passes into it slowly. The temperature changes are believed to be the same in the ingravescent as in ordinary apoplexy, but unfortunately no complete records are given. It is most important that the temperature in these cases be taken in each axilla, and not in the rectum alone.

I trust that my imperfectly reported case may excite the interest of others, and call attention to this apparently distinctive and fatal form of cerebral hemorrhage.

II. Hemorrhage from the Vessels of the Dura Mater—Hæmatoma of the Dura Mater—Pachymeningitis Hæmorrhagica.—Injuries furnish the most of the hemorrhages of the dura mater; but idiopathic hemorrhage is by no means rare, and it seems to be especially common in American cities. English writers on neurology speak of pachymeningitis hæmorrhagica as little more than a pathological curiosity.

The symptoms are so variable that a much further study of the cases is needed, and this is my excuse for collecting here some of those which have come under my observation.

The two great predisposing causes of apoplexy of the dura mater are chronic alcoholism and chronic forms of insanity. The disease has been brought on experimentally in dogs, by giving them excessive amounts of alcohol. (Leyden.)

The older view of the pathology of these hemorrhages was that there was first an internal pachymeningitis, and then a breaking of blood-vessels in the new-growth. The later view of Sperling and Huguenin is now more widely received. It is that the hemorrhage occurs first; that then the clot becomes organized and a membrane formed. The blood-vessels here are numerous and frail. They break, and fresh hemorrhage with the formation of a new membrane occurs.

Such is, in my opinion, undoubtedly the true pathology of most of these cases.

Pachymeningitis hæmorrhagica, so called, is, as a rule, not a meningitis, or a true inflammatory process, but primarily an apoplexy of the dura mater from bursting of one of its diseased vessels, usually some branch of the middle meningeal.

The amount of blood effused may be from one or two to seven or eight ounces.

Histories of Cases.—I have the records of seven cases with autopsies. Some of them have been reported in brief in connection with the presentation of the specimens.

CASE I.—Woman, aged thirty, of alcoholic habits, admitted to hospital in a stupid condition, with paralysis of left side of face and arms, normal temperature. She became partially comatose, and had several convulsions limited to the face and arms, more on the left side. No anæsthesia could be noted. The eyes would open and shut rapidly during convulsions. The pupils were at first normal, but later were evenly contracted. Patient developed fever, became comatose, and died on the second day of pulmonary œdema. Autopsy showed a large surface clot on the right side of the brain, causing the most pressure on the lower and posterior part of the post-central convolution. In the right posterior fossa a false membrane could be peeled off from the surface of the dura mater.

CASE II.—Woman, aged fifty, of alcoholic history. She had suffered a long time from frontal headache. She had been semi-comatose for three days when admitted, and she remained so for the succeeding twenty-four hours in hospital. She showed no distinct signs of paralysis, but both her arms were rigid and her legs slightly so. She died of exhaustion.

Autopsy.—Dura mater not abnormally adherent to bone. On inner surface of dura mater, on right side, was a large hæmatoma, covering the anterior and middle lobes, flattening and narrowing the convolutions of that side, and flattening and widening those of the opposite side. The innermost part of the clot was still in a semi-fluid state. External to this was an older coagulum, and be-

or injure them to any extent and to open up ways of infection. One can rely upon the gentlest sponging of these cavities with 1 to 500 or 1 to 1,000, or iodoform powder, if he will add to this some method of complete drainage.

In reference to the drainage of these cavities I have made use of a posterior drainage in several cases, in addition to the drainage through the anterior wound. The anterior tube and gauze, where the posterior is used in addition, can generally be withdrawn early. Indeed in most cases which I have seen the anterior drainage is of little value after a day or two, if the posterior tube fits well, is large, and is placed at the bottom of the cavity. Another advantage offered by the posterior tube is the possibility of bringing together the wound in the abdominal parietes much sooner and avoiding the tendency to a subsequent hernia.

This is a point to be considered in this operation. I have seen, myself, five cases of hernia following this operation, and I have heard of others. In one of the cases I saw the hernia was a strangulated one which was reduced by taxis.

This posterior drainage also has an advantage in those cases of circumscribed peritonitis with appendicitis where the abscess is situated in the iliac fossa behind the cæcum, or close to it, and where the tissues are sloughy and where the appendix as such cannot be recognized. These are the cases often followed by herniæ or fistulæ, and in just these cases, if the posterior drainage is complete, these dangers are reduced to a minimum. In inserting the tube I have protected the cæcum and small intestines forming the wall of the cavity with my right hand spread out in the shape of a cup; then, with the left hand, cut from without inward, as near as the outer border of the quadratus lumborum as possible, and thus entered the bottom of the abscess cavity. Where these cavities exist in the smaller pelvis the question of draining into the vagina rectum and extra-rectal drainage are to be considered.

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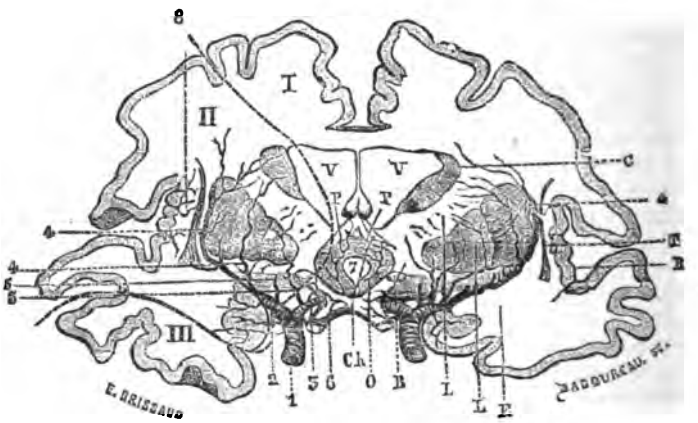

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Case II.—

[Aerzte, 188[9].]

or injure them to any extent and to open up ways of infection. One can rely upon the gentlest sponging of these cavities with 1 to 500 or 1 to 1,000, or iodoform powder, if he will add to this some method of complete drainage.

In reference to the drainage of these cavities I have made use of a posterior drainage in several cases, in addition to the drainage through the anterior wound. The anterior tube and gauze, where the posterior is used in addition, can generally be withdrawn early. Indeed in most cases which I have seen the anterior drainage is of little value after a day or two, if the posterior tube fits well, is large, and is placed at the bottom of the cavity. Another advantage offered by the posterior tube is the possibility of bringing together the wound in the abdominal parietes much sooner and avoiding the tendency to a subsequent hernia.

This is a point to be considered in this operation. I have seen, myself, five cases of hernia following this operation, and I have heard of others. In one of the cases I saw the hernia was a strangulated one which was reduced by taxis.

This posterior drainage also has an advantage in those cases of circumscribed peritonitis with appendicitis where the abscess is situated in the iliac fossa behind the cæcum, or close to it, and where the tissues are sloughy and where the appendix as such cannot be recognized. These are the cases often followed by herniæ or fistulæ, and in just these cases, if the posterior drainage is complete, these dangers are reduced to a minimum. In inserting the tube I have protected the cæcum and small intestines forming the wall of the cavity with my right hand spread out in the shape of a cup; then, with the left hand, cut from without inward, as near as the outer border of the quadratus lumborum as possible, and thus entered the bottom of the abscess cavity. Where these cavities exist in the smaller pelvis the question of draining into the vagina rectum and extra-rectal drainage are to be considered.

In the catarrhal appendicitis in which no complicating peritonitis exists, this care in drainage is not necessary. Such cases are best treated when closed immediately. Parker's operation is to be used only when pus is obtained close to the abdominal wall and near the anterior superior spine. It is a method which will be of great use and attended with very slight danger, but will only be advisable in the older cases.

I must acknowledge my thanks to Dr. Charles McBurney, who has allowed me to make use of these cases.

7 West Thirty-first Street.

THE FORMS OF CEREBRAL HEMORRHAGE.[1]

By CHARLES L. DANA, M.D.,

NEW YORK.

I. **Ingravescent or Progressive Apoplexy, with Comments on the Question of Surgical Treatment.**—There are three sets of intra-cranial blood-vessels, those in the dura mater, those in the pia mater, and those in the substance of the brain. We have correspondingly three types of intra-cranial hemorrhage: the dural, or pachymeningeal, the pial or subarachnoid, and the central (including cerebellar and pons hemorrhages).

The central hemorrhages are far the most common, and present a tolerably uniform clinical type.

There is one form, however, which seems to have escaped critical attention, though it cannot be excessively rare. It is of this I wish to speak first.

In 1876 Dr. Broadbent reported six cases[2] of what he termed "ingravescent apoplexy." It was a form of apoplexy characterized in its onset by sudden headache, vertigo, sometimes vomiting, but without loss of consciousness. Complete hemiplegia, with hemianæsthesia, rapidly sets in. The patient becomes somnolent, stupid, and finally comatose. Death invariably occurs at the end of from one to five days, with characteristic respiratory disturbances and rise of temperature. The clinical features of this type, as described by Dr. Broadbent, were its onset without loss of consciousness, the hemiplegia, with anæsthesia, the steadily progressive course, and fatal termination.

After death the hemorrhage was found to involve the white matter posterior to the outer segment of the lenticular nucleus, and to cleave its way forward into the external capsule. It involved the internal capsule in its more posterior part, and it finally broke into the lateral ventricle. The vessel affected in these cases is evidently one of the posterior branches of the external lenticular artery.

In *Le Progrès Médical* for April 27, 1889, M. P. Puesch, of Montpellier, reports a case of this character, and analyzes it in connection with the cases previously reported.

Dr. Charles K. Mills, of Philadelphia, has reported cases of this character. A very typical illustration of it is given in a paper read by Dr. J. A. McBride, by title, before the American Neurological Association, at its last annual meeting.

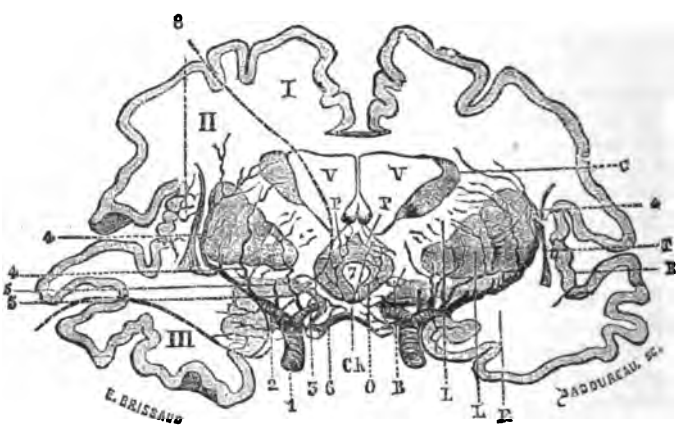

Fig. 1.—Vertical Section of Cerebrum at Level of Anterior Border of Præcentral Convolution, showing clot cleaving through external capsule.

I have met two cases presenting the general clinical characters of ingravescent apoplexy, but was able to make an autopsy upon only one, of which the history is as follows:

A woman, aged thirty-four, was brought to the hospital May 1st, without any history. She was in a stupid condition but not unconscious, and she was at first thought to be intoxicated. Examination showed, however, some hemianalgesia of the left side, and slight hemiplegia of this side. The right pupil was slightly contracted, temperature normal, pulse tense. Next day the patient's mind was slightly clearer; she answered questions and recognized those about her. But her hemiplegia was very much worse, and her analgesia no better. Toward night she became more stupid, and finally comatose; œdema of the lungs developed. No contractures of the paralyzed side were noted. The temperature rose. She died the next day, May 3d. At the autopsy the brain was found congested. Pressure over the left supra-marginal gyrus showed that there was a softened place beneath it. The brain was placed in boroglycerine and alcohol, and opened later by vertical sections. These showed a clot in the left lateral ventricle and some blood in the third ventricle. Beneath the supra-marginal gyrus was a large hemorrhagic focus about an inch and a half in diameter. This extended forward and downward, cleaving the external capsule. The hemorrhage had finally extended down and inward, and broken into the lateral ventricle, as shown in the cuts.

[1] Read at a meeting of the Northwestern Medical and Surgical Society, March, 1890.

[2] The Lancet, London, 1876, p. 887.

Comments.—Puesch has attempted, on the slender basis of seven cases, to erect "ingravescent," or, as he calls it, "progressive," apoplexy into a distinct type. This seems to me somewhat premature. The history of my case is not exactly like those of Broadbent's in respect to retention of consciousness; and the hemiplegia was relatively less marked. Yet anatomically it was one of the "cleaving" hemorrhages due to rupture of a posterior branch of a lenticular artery, and running the same course as was described by Broadbent. The hemianæsthesia seems to me to be a very distinctive point.

Practically the question comes up whether in such cases trephining would be justifiable. In general, the idea of trephining for non-traumatic hemorrhage is not to be entertained at all. But in ingravescent apoplexy it deserves consideration because the hemorrhage here is accessible, and because, unless some relief is given, it will surely break into the lateral ventricle and kill the patient. In all the reported cases, also, the patients are not old—not above fifty years of age—are not syphilitic, and presumably have not extensively diseased arteries.

In my own case, if the original focus of the disease had been reached on the first or second day, it is most unlikely that the hemorrhage could have torn its way into the lateral ventricle.

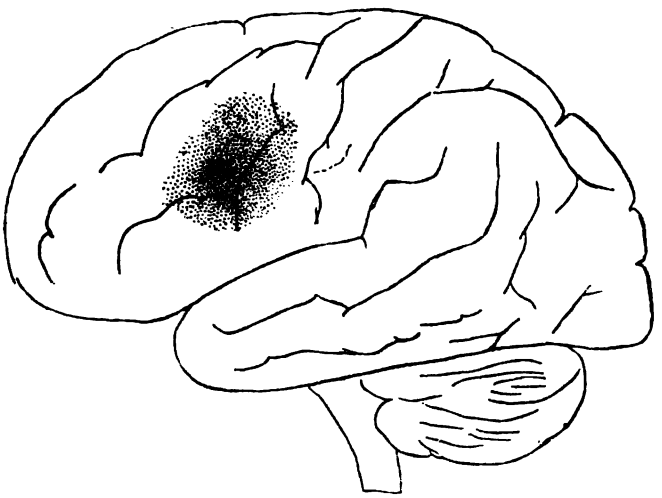

FIG. 2.—Section at Level of Posterior Border of Postcentral Convolution, showing original site of clot.

In reaching hemorrhages in these cases, the best place to trephine would be a little below and in front of the parietal eminence. The surgeon should then explore downward and forward, remembering that he must not injure the terminal branches of the Sylvian artery, which are in this neighborhood. The needle or probe may be plunged into the brain for from one and one-half to two and one-third inches.

To reach the internal capsule in its anterior or middle parts, the common seat of cerebral hemorrhage, a different route must be selected. From some experiments on the cadaver, I should recommend that a point be found midway between the anterior and posterior ends of the corpus striatum and optic thalamus, respectively (*vide* Rule X. in my rules for cranio-cerebral topography). Trephine here at a point one and a half inch from the median line. Plunge the needle directly down for one and a half to two and one-third inches. The ganglia lie about one and a half inch below the superior convex surface of the brain.

In cases of "ingravescent" apoplexy, surgical interference, if undertaken, must be before the blood breaks into the ventricles. This can be told by the sudden increase in the severity of the symptoms, and if the blood is poured in rapidly by contractures on the paralyzed side. In "ingravescent apoplexy," however, the rule is, contractures are not usually noted, probably because the rupture into the ventricle is a small one and the blood passes into it slowly. The temperature changes are believed to be the same in the ingravescent as in ordinary apoplexy, but unfortunately no complete records are given. It is most important that the temperature in these cases be taken in each axilla, and not in the rectum alone.

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Histories of Cases.—I have the records of seven cases with autopsies. Some of them have been reported in brief in connection with the presentation of the specimens.

CASE I.—Woman, aged thirty, of alcoholic habits, admitted to hospital in a stupid condition, with paralysis of left side of face and arms, normal temperature. She became partially comatose, and had several convulsions limited to the face and arms, more on the left side. No anæsthesia could be noted. The eyes would open and shut rapidly during convulsions. The pupils were at first normal, but later were evenly contracted. Patient developed fever, became comatose, and died on the second day of pulmonary œdema. Autopsy showed a large surface clot on the right side of the brain, causing the most pressure on the lower and posterior part of the post-central convolution. In the right posterior fossa a false membrane could be peeled off from the surface of the dura mater.

CASE II.—Woman, aged fifty, of alcoholic history. She had suffered a long time from frontal headache. She had been semi-comatose for three days when admitted, and she remained so for the succeeding twenty-four hours in hospital. She showed no distinct signs of paralysis, but both her arms were rigid and her legs slightly so. She died of exhaustion.

Autopsy.—Dura mater not abnormally adherent to bone. On inner surface of dura mater, on right side, was a large hæmatoma, covering the anterior and middle lobes, flattening and narrowing the convolutions of that side, and flattening and widening those of the opposite side. The innermost part of the clot was still in a semi-fluid state. External to this was an older coagulum, and be-

neath the latter was a fully organized false membrane, evidently quite old, which, under the microscope, showed fully formed connective-tissue elements and thin-walled blood-vessels. The arachnoid and pia mater were normal. The spinal cord was normal, with the exception of a few small calcareous plates found in the arachnoid of the lower part of the cord. Other organs normal.

CASE III.—That of a woman, whose brain was shown before the Practitioners' Society last fall. The patient, aged fifty, was a chronic alcoholic, and entered the Bellevue Hospital in a state of alcoholism. Although she had not taken any liquor for several days, yet she lay in the state which usually characterized chronic alcoholics. She was stupid, and partially unconscious at times, and occasionally showed muttering delirium. She took food with difficulty, answered only a few questions, had no special fever. She continued this way about a week, and died of symptoms of pulmonary œdema and exhaustion. There was no sign of paralysis at any time. At the post-mortem he found a very typical form of pachymeningitis hæmorrhagica affecting the convexity of the right hemisphere. The dura showed at least four different fibrinous layers, indicating that there had been, at different times, as many as four effusions of blood with organization of the clot. The symptoms had resembled very much those of so-called wet brain, or œdematous brain. That had been his diagnosis, with, perhaps, a low grade of meningitis such as characterized alcoholism.

CASE IV.—A woman, aged sixty-eight, who suffered from right hemiplegia and hemianæsthesia, aphasia, and convulsions limited to right arm and face. On post mortem examination there was found a large fresh dural hemorrhage pressing on the upper half of the central convolutions, and extending more posteriorly.[1]

CASE V.—Woman, aged thirty; Canadian. Patient has been a moderate drinker of beer and whiskey; no history of syphilis is given. In past two years she has had several pulmonary hemorrhages, and two weeks before admission she developed decided signs of phthisis. She also suffered intensely from headache. Patient, on admission, was obliged to go to bed. For the first few days was very restless, and almost in constant motion from the cephalalgia and pain along the spine; as time passed she became more quiet, and lying with closed eyes, seemed to sleep a large part of the time. There was incontinence of urine and constipation. For the last two days her mother has noticed muscular twitching in the arms. No rigidity of the neck was observed. She has been gradually getting worse, the stupor has been increasing, and it has been very difficult to get her to take nourishment.

Physical Examination.—Both feet are latero-inverted, and the toes inverted. There is an absence of all reflexes. The knees are not rigid, but are reflexed and rest on the right side of the bed. There is some right facial paralysis, and the mouth is drawn to the right side. The pupils are contracted, but respond slowly and irregularly to light. There is no photophobia. The pupillary orifice is irregular and more oval than round. There is marked rigidity of the neck. There is incontinence of urine and constipation. At the apex of the right lung there are a few crepitant râles, and all over the rest of the lung there are a few subcrepitant râles. Otherwise the lungs are normal. The heart is normal. Urine, acid, specific gravity 1.030, amber, no sugar, no albumin. Micro-leucocytes, round and polygonal cells. Sediment, mucous. Two days after admission she died.

Autopsy.—Between the dura mater and the pia mater, over the posterior superior surface of the cerebrum, was a very extensive hemorrhage found. Underneath the position of the hemorrhage, the convolutions were considerably compressed. There was some congestion, but otherwise the brain appeared normal. The vessel from which the hemorrhage occurred was not ascertained with certainty, but it was supposed to come from one of the middle meningeal arteries. The spinal cord was not examined. The heart was normal. The lungs were bound down to a certain extent by old adhesions. Both lungs were congested, and in the lower lobes a considerable œdema was found. The liver was somewhat diminished in size, but did not seem especially firm. No other abnormal change was observed. The spleen was somewhat soft, but otherwise normal. Both kidneys were firm, but diminished in size, the capsules somewhat adherent, and the markings were quite indistinct, and many of them obliterated.

Distinctive Symptoms and Diagnosis.—The principal symptoms in the foregoing cases were headache, stupor, and coma; convulsions which were not general, restlessness and delirium, paralysis of hemiplegic type, usually not very profound.

In one case, rigidity.

The onset is not very sharp, as a rule. The temperature is not much affected, except by complications.

There was a curious predominance of the female sex, and the age of the patients was not an advanced one. Cases are reported of large dural hemorrhages without symptoms, but these almost always occur in the insane.

In alcoholic cases some evidence of the trouble is shown, unless the hemorrhage is slight.

It must be remembered, finally, that profound alcoholism may greatly obscure the symptoms.

III. Hemorrhage in the Cerebral Cortex—Pial Hemorrhage.—This is a form of hemorrhage which is not so extremely rare. The most frequent causes are trauma and alcoholism. Insanity and syphilis also take prominent part in the etiology. Blows on the head of the chronic alcoholic seem to cause sometimes a dural hemorrhage. The hemorrhages are usually small, but they not infrequently are multiple. The symptoms may be very slight if the lesion is not in the motor area. If it is here partial convulsions and paralyses may occur.

The pathology of cortical hemorrhages is like that of central hemorrhages, *i.e.*, arterial disease, miliary aneurisms, and rupture.

The writer excludes from consideration that special class of meningeal hemorrhages which occur in the newborn.

The following case is instructive, both from the point of cerebral localization and cerebral surgery.

George K——, aged fifty, English, a tinsmith by trade, was admitted to Bellevue Hospital July 8th, in a comatose condition. He was reported to have been picked up in the street unconscious, and to have had six convulsions before he reached the ward. No further history could be obtained. His head bore the marks of some extensive scalp wounds recently healed, and of an old and small fracture, on the right parietal bone. The thoracic viscera were normal, and there was no albumin in the urine.

Every five or ten minutes the patient would have a convulsion lasting about a minute. The spasms, which were mainly clonic, began in, and were confined to, the right face, head, and arm. The head was turned to the right, the eyes deviated to the right, the arm was half raised, the forearm about half flexed, and the hand half closed. The flexors were, therefore, predominantly affected. After the convulsion ceased the patient lay quiet and almost unconscious. There was, however, an evident paresis of the right side. It was impossible to say whether or not there was anæsthesia. The pupils were rather small, no reflexes could be elicited. I diagnosticated a cortical hemorrhage of the left hemisphere, pressing on the arm and face centres. The old fracture was on the right side and not over any motor region, and I could not attach any direct importance to it. Despite all treatment the convulsions continued, and the patient was finally transferred to the surgical side for operation. It being then midnight, the house-surgeon, Dr. Biggs, was obliged to operate. The patient was too much exhausted to rally, and he died a few hours later.

[1] MEDICAL RECORD, March 5, 1887.

The autopsy showed a small diffuse sub pial hemorrhage, not more than a drachm in amount, lying in the position indicated, *i.e.*, at the base of the second frontal, extending into the lower half of the præcentral and into the base of the third frontal.

There was no other lesion of the brain whatever, though the arteries at the base were somewhat thickened and atheromatous. The kidneys showed some chronic diffuse nephritis. The other organs were normal.

The hemorrhage infiltrated the cortical tissue, and I presume that on this account, though small, it was sufficient to cause extravasation from the convolutions.

Principal Symptoms and Diagnosis. — A history of alcoholism, syphilis, or insanity, or of trauma, may lead to the suspicion of cortical hemorrhage. The small amount or absence of paralysis, and of extensive anæsthesia, the decided limitation of the convulsion, and the absence of continuous stupor or coma, lead to the suspicion of cortical rather than dural hemorrhage. The diagnosis cannot, however, as yet be positively made.

Alcohol plays a much more important part in causing cortical and dural hemorrhages, while syphilis attacks the basal and central vessels. Bright's disease, cardiac disease, and the various agencies which bring about chronic endarteritis, show their effects in central hemorrhages. These facts must be borne in mind when the question of diagnosis arises.

In a second case, the patient, a man thirty-seven years of age, was brought to the cells in a stuporous condition, and showing the evidences of chronic alcoholism. He lay in a semi-comatose condition, not speaking or showing signs of intelligence, for six or seven days. He showed evidences of slight left hemiplegia, he had no convulsion. He finally died of exhaustion.

On autopsy, a hemorrhage in the cortex was found, involving the right upper parietal and part of the central convolutions.

A few small purulent foci were found in the kidneys.

To recapitulate: Of the three forms of cerebral hemorrhage—dural, cortical, and subcortical or ganglionic—dural hemorrhage is most apt to occur in women, in the insane, and in alcoholic subjects, between the ages of thirty-five and fifty years. The main symptoms are headache, delirium followed by stupor and coma, localized convulsions, and often some paralysis. Cortical or pial hemorrhage is distinguished, when it causes symptoms, by a stricter limitation of the convulsions and the paresis. The ingravescent form of central hemorrhage is also most frequent among women, and the lesion is most common upon the right side. The symptoms are pain, vertigo, vomiting, retention of consciousness at first, hemiplegia and anæsthesia, the symptoms being progressive and surely becoming fatal. In the cases thus far reported, the lesion has been in the external capsule, between the lenticular nucleus and the cortex.

Alcohol, insanity, and trauma affect the cortical and dural vessels.

Syphilis, chronic Bright's disease with its endarterites, cardiac hypertrophy, affect the basal and central vessels.

The Phenylhydrazin Test for Glucose.—This method is based on the power of phenylhydrazine to unite with grape-sugar and form characteristic crystals. To a measuring beaker half full of water, two drachms of hydrochloric phenylhydrazin and three of sodium acetate are added; the compound having been heated a little, the same quantity of urine is added, and the beaker placed in a vessel of boiling water for fifteen minutes; it is then quickly put into very cold water. After standing for some minutes a yellow sediment slowly falls, in which crystals of phenylglucosazon are always to be found if the least quantity of grape-sugar be present in the urine. These yellow crystals have the shape of long rods, terminating at each end in round balls or bunches.

THE STERILIZATION OF CATGUT, WITH A DESCRIPTION OF A NEW, SIMPLE, AND EFFICIENT METHOD.

By GEORGE R. FOWLER, M.D.,

SURGEON TO ST. MARY'S HOSPITAL AND THE METHODIST EPISCOPAL HOSPITAL, BROOKLYN, N. Y.

For a long time the writer has been impressed with the utter unreliability of the catgut as ordinarily furnished to the profession by the manufacturers, and the extreme difficulty of perfectly sterilizing this substance, in the meshes of which are to be found an almost constant proportion of fatty matter, the presence of which will successfully resist the very best directed efforts heretofore known to bring potent germicides in contact with the minute interstices of its structure. It has been suggested that treating the gut with juniper-oil and ether would be efficient in removing this fatty matter; but in the experience of the writer, catgut thus treated has seemed to contain quite as much fat and oil as a sample of the same before being so treated. If any doubt as to this exists, let a glass spool of catgut prepared in carbolized oil, such as is furnished by any purveyor of this class of goods, be placed in juniper-oil and then washed in ether. A sample of such an oil-soaked material will be found, if continuously immersed in ether for three months, to contain about the same amount of oil and fatty matter as before.

No argument on my part is necessary to convince those who have given any thought to the subject, that in the catgut of commerce, produced as it is in large quantities, and prepared by those who possess in but a slight degree a knowledge of the rigid precautions necessary to obtain typically aseptic wound-healing, and in whom there is but slight reason to expect the exercise of that care so essential in its preparation, sources of danger not readily appreciable, but none the less present, exist. Kocher, of Berne,[1] has related an experience which might be duplicated again and again by other surgeons. This surgeon noted that a series of cases of interrupted wound-healing pursued a course so uniform as to suggest a common source of infection. A revision of all antiseptic apparatus and dressing followed, and yet no improvement took place, and then the question was narrowed down to the catgut used in the clinic. Finally this was discarded entirely from use, and the former aseptic course of cases operated upon in this hospital was at once restored. Silk was substituted for the catgut on account of the greater ease with which it could be sterilized, from the fact that it is possible to employ heat in the case of this material. The greater certainty of this as a means of sterilization, and the immunity from danger when the sole reliance was not placed upon chemical germicides, were demonstrated by the behavior of wounds following this amendment to the former methods employed. Kocher's experience led him to discard catgut altogether from use in his clinic. The experience of the late lamented Volkmann at the Halle clinic, in a case of anthrax infection produced through catgut, is likewise still fresh in the surgical mind, and needs only to be mentioned to bring a feeling of dread and uncertainty to the surgeon as he reflects upon the various channels and hands through which catgut must pass ere it reaches its final resting-place in the tissues of his patient.

I have always held that catgut is the very best material thus far employed for the purposes of the surgeon, and, notwithstanding the unfavorable experience of Kocher and Volkmann, I have never despaired of being able to still avail myself of its advantages, through the discovery of some simple and efficient method of sterilization.

In the early part of the present year I was led to make some investigation upon the best methods of accomplishing perfect sterilization of catgut. I succeeded, after trial of several methods—always keeping in mind the fact that heat must enter as a prominent factor into the method which

[1] Correspondenzblatt f. Schweizer Aerzte, 188°.

was to be finally chosen, as well as the equally important fact that the thermal death-point of the graver forms of bacillus and spores was far above that which catgut would ordinarily bear without disintegration—in developing a plan of procedure which, after practical trial as well as experimental study, has thus far proven thoroughly effectual, and at the same time possesses the advantage of simplicity. The method consists simply in boiling the catgut of commerce for one hour in ninety-seven per cent. alcohol, the boiling-point of which is 183° F. Under this treatment the gut ceased to produce infection, which had previously been a frequent cause of an interruption of the healing process in a number of instances, in spite of my best care; in addition to the advantage thus gained, it was found that the tensile strength was increased, and the tendency of the strands to slip through the hands while tying, and the knots themselves to become loosened from the same cause (slipping), was markedly lessened. As for the behavior of the catgut in the tissues, there seems to be but slight change effected in its structure, so far as its absorbability is concerned. I have thought that sutures held somewhat longer after this method of preparation than in the case of catgut prepared after other methods, with the exception of the chromic gut of Lister. This is rather an advantage than otherwise, particularly in trachelorrhaphy and perineorrhaphy cases.

Following these observations, I requested Dr. Eugene Hodenpyl, of the Bacteriological Laboratory of the College of Physicians and Surgeons, New York, and Pathologist to the Methodist Episcopal Hospital, to make a series of experiments to demonstrate whether or not the method of disinfection by boiling in alcohol would bear the test of infection and culture experiment in vogue among bacteriologists of the present day. In response to my request, Dr. Hodenpyl conducted a series of experiments and reported as follows:

1. Bits of unsterilized catgut, when planted in various sterilized culture media, caused a number of colonies of bacteria to develop in all instances. The species of growth was not determined.

2. Bits of catgut, boiled for five minutes in alcohol ninety-seven per cent. and afterward dried, and then planted in culture media, remained sterile in most instances. In two of the culture-tubes of this series a bacterial growth developed.

3. Bits of catgut, which had been boiled in alcohol for one hour, were dried and planted in culture-tubes. In all cases the tubes remained sterile.

4. Small pieces of catgut were soaked for twenty-four hours in active beef-tea cultures of: *a*. Streptococcus pyogenes; *b*, Staphylococcus pyogenes aureus; *c*, Anthrax bacilli; *d*, Anthrax (spores).

The catgut was afterward boiled in strong alcohol for different periods of time, and after being dried, was planted in culture media.

After fifteen minutes boiling, sterilization was not complete, as some of the tubes showed a bacterial growth. After thirty minutes all the culture-tubes remained sterile, except those which were planted with catgut which had been impregnated with the spores of anthrax. After forty-five minutes, and one hour, sterilization was complete.

Conclusion: Catgut ligatures may be completely sterilized by boiling them for one hour in strong alcohol.

Since bacteria are not capable of development in strong alcohol, the sterilized ligatures may be kept indefinitely in this fluid.

As to the steps of the method of preparation itself, but little need be said. I have found however, practically, that a pint of the alcohol is sufficient for sterilizing fifty metres of the catgut. The latter is wound upon the ordinary small wooden spools used for winding cotton and linen thread, these being previously boiled in a solution of soda for a time in order to cleanse them, and at the same time remove any coloring matter. The catgut, thus wound upon spools, is placed in a small fruit-jar, or ground glass stoppered bottle, the cover or stopper being left loose or removed, and the requisite amount of alcohol poured over it. This is then placed in a water-bath or one of the steam milk sterilizers, in common use, or any method of boiling the alcohol may be employed. Should there be a suspicion that the gut has become reinfected by handling or exposure, it may be resterilized by again boiling it, without impairing its texture.

I am well aware that the best culture medium is the fluids of the animal body itself, and that these experiments can be carried still further by a study of the behavior of catgut previously infected, and then presumably disinfected in these tissues. This I propose to do at an early day, but the culture experiments already made, as well as my own experience in actual practice, show that this method possesses advantages which appeal to the mind of the practical, hard-working, every-day surgeon. My first specimens of disinfected catgut were treated by being boiled in the ninety-five per cent. alcohol of the shops, and this served me well, but in view of the possibility of this product being still further diluted with water, which would tend to destroy the gut, the ninety-seven per cent. alcohol is more to be relied upon.

Progress of Medical Science.

Observations on the Microbe of Diphtheria.—Dr. Klein has published an account of his researches concerning the transmission of diphtheria by means of the Klebs-Löffler bacillus. While this disease, which caused the deaths of more than 38,000 persons in this country in the census year 1880, is easily communicated from one human being to another, there have been many epidemics in which the origin of the infection could not be clearly shown. The result of Dr. Klein's experiments may throw light on cases that have baffled ordinary inquiry. In human diphtheria the bacilli are found only in the diphtheritic membrane, and it is believed by many that the disease is caused by a poison excreted by these minute organisms at that place and absorbed into the system. Dr. Klein found that when guinea-pigs or cats were inoculated with the bacillus of human diphtheria the microbes were confined to the seat of inoculation, and there was caused a severe and fatal disease of the lungs. For some years the London health officers had been telling him about "a curious relation existing between a mysterious cat disease and human diphtheria in this manner; that a cat or cats were taken ill with a pulmonary disease, and while ill were nursed by children, and then these latter sickened with well marked diphtheria. Or children were taken ill with diphtheria, and either at the same time or afterward the cat or cats sickened." He says: "The disease in the cat was described as an acute lung trouble. In one instance—in the north of London, in the spring of 1889—this cat malady, occurring in a house where diphtheria soon afterward appeared among the children, was of a widespread nature; a veterinary surgeon, Mr. Daniel, informed me that at that time he had several patients among cats affected with the disease, consisting of an acute catarrhal affection, chiefly of the respiratory passages. He furnished me with two such animals; one that after an illness of several weeks had died, another that was sent to me in a highly emaciated state, affected with severe broncho pneumonia; this animal was paralyzed on the hind limbs. In both instances the post-mortem examination showed severe lung disease, broncho-pneumonia, and large white kidneys due to the fatty degeneration of the entire cortex. A similar condition is met with in the human subject in diphtheria. Further, I received from Dr. Thursfield, of Shrewsbury, the body of a cat that had died after a few days' illness from pneumonia in a house in which children were ill with diphtheria; another cat in the same house, that next became ill with the same lung trouble, also succumbed." Dr. Klein found that cats inoculated with the

bacillus of human diphtheria died in the same way—of lung disease and fatty degeneration. His conclusion was that in the cat the natural disease of diphtheria was a lung disease, and that the lung is the organ in which the diphtheritic process in the cat has its seat. Further experiments confirmed this conclusion. During the last ten or twelve years certain epidemics of diphtheria in or near London have been traced to the milk supply, but it could not be shown in what manner the milk had become contaminated. The evidence was strong that there had been no direct pollution from a case of diphtheria in a human subject. The cows were reported to be in good health. But it was admitted that two or three of them exhibited symptoms of some disease on the udder. This fact and the experiments with other animals, suggested to Dr. Klein a course of inquiry. Two milch-cows were inoculated in the shoulder with a culture of the bacillus of human diphtheria. Beginning with the fifth day, each cow exhibited on the udder an eruption like that which had been reported in the unexplained epidemics. One died on the fifteenth day, the other became very ill and was killed on the twenty-fifth day. It should be noted that the fatal disease appeared to be broncho-pneumonia, with necrotic changes in the liver, and that it really was diphtheria in the form in which this disease is manifested in a cow. The eruption on the udder continued for about seven days. The description of it recalled the descriptions of the similar disease discovered in the herds in the case of the diphtheria epidemics. But while the diphtheria bacillus in the human being, the guinea-pig, and the cat is confined to the seat of inoculation, in the cow it passes into the system. In milk taken with the greatest care from one of these cows, there were found thirty-two colonies of the diphtheria bacillus in one cubic centimetre of the fluid. The presence of the bacillus in the eruption on the udder was also demonstrated, both by microscopic examination and by experiment. Two calves inoculated from the udder exhibited the same disease near the seat of inoculation, and then became affected with "severe broncho-pneumonia and with fatty degeneration of the cortex of the kidney." The last experiment mentioned was an accidental one. At the beginning of last April two cats died at the Brown Institution—where these investigations were made—after having been ill for several days, "with symptoms like those of natural cat diphtheria." Before the end of April fourteen cats became similarly affected, and some of them died. At first Dr. Klein could not account for this. The two cats that were the first to die had been healthy when they were brought to the place. Careful inquiry, however, left no room for doubt as to the origin of the infection, and gave to this accidental experiment considerable value. In the latter half of March there were in the stables of the Brown Institution the two cows already mentioned, which were ill with diphtheria induced by inoculation with the bacillus of human diphtheria. As soon as the bacillus was found in the milk taken from these cows the attendant was directed to throw this milk away. He had disobeyed his instructions and had given some of it to the two cats, which soon became sick, and from which the disease seems to have been communicated to their fourteen companions.—*The New York Times.*

A Case of Excision of the Entire Humerus.—In the *Medical and Surgical Reporter* Dr. Sexton has described an unusual case of excision of the entire humerus. A boy, aged ten, injured his shoulder by a fall on the ice in February, 1888. Abscess followed, which pointed below the deltoid, and left a sinus leading to dead bone. The patient came under Sexton's observation four months after the accident. There was then marked bone disease up to and involving the head of the humerus. About the shoulder and half-way down the arm the structures were all infiltrated. The humerus itself seemed enlarged at the middle third, as if by callus, but there was no history of fracture. The boy's septicæmic condition and the excessive heat of the season contraindicated operation further than to excise and drain tissues near the joint. His general health improved upon tonics until October 1st, when twitching and jerking movements of the hand and arm were noticed. These movements became more violent and painful, and by the 29th had involved almost every movable part of the body in a severe chorea. The face wore an expression of imbecility, and the patient was rapidly sinking from exhaustion. After consultation it was decided to operate, with the idea that not much good would be likely to result from treating the chorea—whether reflex or otherwise—with the arm in its present condition. With the intention of excising the head and as much of the shaft as might be diseased, a downward incision, six inches in length, was made from the tip of the acromion. The head of the bone was thrust out of the wound, and the shaft sawn through about its middle. The bone below that point was evidently diseased, so that the incision was prolonged to the radial condyle, the elbow-joint opened, and the entire humerus removed. The wound healed well under antiseptic treatment. The chorea ceased, of course, under the anæsthetic, and returned about three hours after the patient's awaking, but not violently, nor did it cause any pain. Ten days afterward the chorea was well, and in thirty days the boy began to use his arm. Four months after the operation the report showed perfect health; no chorea; wound united; no signs of bone growth. Measurement gave two inches of shortening to the affected arm, with greater circumference than on sound side; motion of fingers perfect; "can lift to a good advantage," and carry a burden; can dress himself; no muscular atrophy. The author observes that he cannot find a single recorded instance of grave operation in the presence of chorea. Many minor operations, such as removal of foreign bodies or division of nerves, are reported. He is inclined to trace the disease rather to the debility consequent on long-continued suppuration than to reflex irritation. On the other hand, the history of the case undoubtedly follows the rules supposed to demonstrate reflex chorea. It began in, and was confined to, the arm; and it must be confessed that the anæsthetic, the shock of operation, and the removal of local disease, exerted a promptly curative effect upon the nervous phenomena. The operation of excision of the entire humerus is rare. This probably results from the fact that—1. Any lesion calling for removal of the entire bone generally comes within indications for amputation at the shoulder-joint. 2. Mortality after amputation is less after excision of the head with any considerable part of the shaft of the bone. 3. Because it has been held that a flail-like arm is of no use whatever, and rather an encumbrance than otherwise. On the other hand, it may be urged that there may be bony regeneration of considerable amount; that the preservation of the outline and form of the member is more sightly than an empty sleeve; that, on account of the shortening, thickening, and consequent strengthening of the muscular tissues, no little degree of leverage will be preserved, and much valuable power of fingers, hand, and wrist, be retained.

Infection by Typhoid Bacilli without Intestinal Lesions.—Dr. Vaillard recently communicated to the Société des Hôpitaux a case of infectious disease in which he discovered the presence of the typhoid bacillus and the streptococcus without there being any intestinal lesions. A young soldier, convalescent from slight grip, presents successively headache, great lumbar pains, cerebral excitation, with a high temperature and abundant epistaxis. There soon followed coma vigil, with complete anæsthesia, contraction of the nape of the neck and of the muscles of the pharynx, and obstinate constipation. Death occurred on the tenth day, after a brief warning of cerebral symptoms. The autopsy revealed general congestion and localized œdema of the cerebral and spinal meninges. The lungs were congested; the spleen,

swollen and softened, weighed ten ounces. There was no alteration of the intestine. Cultures on different media were made with the splenic pulp, blood from the lungs, and parts of the spinal marrow. They revealed a bacillus, morphologically like the typhoid bacillus described by Eberth, Gaffky, Chantemesse, and Widal. Besides, there was found in the spleen and the meningeal exudate the streptococcus which has been described as occurring in cases of fatal grip. The patient, therefore, succumbed to a mixed infection of the streptococcus and of the typhoid bacillus. M. Vaillard claims that typhoid fever has in this case run its course without its usual train of symptoms and lesions. Why should not typhoid infection be able to exist without manifesting the intestinal signs and localizations described by Louis and his successors? Banti has observed a case of typhoid fever without appreciable intestinal lesions, but in which the typhoid bacillus was found in the spleen and mesenteric ganglia. Adinot cites a case of meningitis without intestinal alteration, in which the meningeal exudate contained a bacillus which he identified (though without positive proof) as being the typhoid bacillus. Vaillard thinks, therefore, that in certain cases the typhoid bacillus may cause a fatal infection without producing the lesions characterized as pathognomonic of typhoid fever.—*The Weekly Medical Review.*

The Transmission of Typhoid Fever by the Air.—The principal characteristic of contemporary medical science is the attempt, which in many cases has been largely realized, to determine the mode of propagation of infectious diseases. Although much still remains to be accomplished, yet immense progress has been realized in this direction, and it is hardly necessary to say that when these questions in etiology receive their solution prophylaxis will at the same time be greatly advanced. In the case of typhoid fever, as yet, but one mode of explaining the spread of this disease is recognized, and that is through the mediation of water, or of drinks accidentally charged with typhoid discharges. But the question as to whether water is the sole vehicle for the typhoid bacillus can only be answered by the recognition of the bacillus in the air, and by the establishment by clinical observation that typhoid infection may occur through the pulmonary passages. Recently Dr. Bordas has undertaken a series of researches which appear to show that the bacillus of typhoid fever should be classed among the aërobic micro-organisms. He has recognized that this bacillus remains inactive in dry air completely deprived of vapor, and that it continues to live, and even to multiply, in an atmosphere more or less charged with humidity. This last explanation is especially important, as offering an explanation of certain peculiarities which have as yet escaped satisfactory explanation; such, for example, as the great frequency of typhoid fever in October and November, months which are ordinarily accompanied by the greatest atmospheric humidity. The experience of Dr. Bordas further shows that the contagion of typhoid fever may be for a long time preserved in its activity, and that the explanation of this is largely found in the fact that the periods of prolonged dryness, which are the cause of destruction for the bacilli, are relatively rare. Finally, there is nothing impossible in the belief that the bacillus is capable of directly penetrating into the respiratory passages, and thus starting the typhoid infection.—*The Therapeutic Gazette.*

Recent Observations on the Action of Caffeine.—In an article concerning the properties of caffeine, by Dr. Reichert (*The Therapeutic Gazette*), we are informed that coffee and its two conceded active principles—caffeine and the oil of coffee—are generally believed to act as stimulants to the circulation, increasing the force and frequency of the pulse and the amount of work performed by the heart; yet the evidence upon which this is founded is far from convincing, there being but few cases of poisoning on record, the actions of therapeutic doses having been but little studied, and the results of experiments on the lower animals insufficient and conflicting. From the author's personally conducted experiments he concludes the following: 1. The pulse-rate may be diminished during the first and last stages of caffeine poisoning, but is generally decidedly increased. During the first stage the diminution is due to a stimulation of the cardio inhibitory centres in the medulla oblongata and heart, and during the last stage to a direct depression of the heart. The increase in the pulse-rate is due to a depression or paralysis of the above cardio-inhibitory centres. 2. Arterial pressure during the first stages of poisoning is generally unaffected or diminished, but occasionally a trifling increase is noted; during subsequent stages it is diminished. The increase is due to a direct stimulant action upon the blood-vessel walls, increasing vascular tension. The diminution is due chiefly to a direct depression of the heart, and to some extent, doubtless, to a secondary paralyzant action on the vessel walls. 3. The acceleration of the heart-beats may be accompanied by no appreciable alteration in blood-pressure, but generally by a more or less decided diminution, which is dependent upon cardiac depression. 4. Caffeine diminishes the heart's efficiency for work, arrests it in diastole, sometimes induces sudden paralysis, and is, therefore, a cardiac depressant. 5. The asserted stimulant action upon the circulation is doubtless subjective, and dependent upon an excitation of the cerebral centres.

In the same journal Professor Sée concludes a paper with the following *résumé*: 1. Caffeine, in small repeated doses, when given to soldiers on the march, facilitates muscular work, not by directly increasing the activity of the muscle itself, but by acting on the cerebral and cerebro-spinal system. The consequence of this double action is the diminution of the sensation of effort and the prevention of the feeling of fatigue. 2. Caffeine prevents shortness of breath and palpitation, as a consequence of severe effort. 3. Under its use individuals subjected to prolonged violent exertion acquire the characteristics of persons in perfect physical training. 4. In producing this excitation of the cerebro-spinal motor system, on which depends the increase of muscular tonicity, caffeine increases the loss of carbon by the organism, but it does not restrain the loss of nitrogen. It does not thus in reality save tissue-waste. 5. A means of preventing tissue-waste, and so preventing the effects of inanition from fasting, is absolutely impossible of realization, since such a state of affairs could only be attained by absolute inaction or immobility, a state of affairs which it is hardly necessary to state cannot exist. With caffeine, then, the direct opposite ensues—that is, although there is intense work rendered possible, it is only obtained at the expense of the organism. The animal machine can only operate at the expense of tissue-combustion, and it is precisely in facilitating this combustion that caffeine enables muscular work even during fasting. 6. Caffeine has thus not the property of replacing foods, but only replaces the tonic general excitation which the general ingestion of foods produces. If one could assume that it was the direct, immediate, instantaneous action of foods which stimulated the stomach and the nervous system, and that their alimentary value does not extend beyond this, they could be substituted by stimulants. Finally, Professor Sée maintains that the action of caffeine on the heart and blood-vessels is different from what is generally maintained, and is a much more active stimulant than is usually believed.

Midwives and Septicæmia.—A French court has recently sentenced a midwife to six months' imprisonment. She was accused of having caused, in a single month, through neglect of the necessary precautions, the death of seven women, whom she had attended in confinement. The French do these things better than we do.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, August 16, 1890.

MEDICAL EDUCATION IN THE UNITED STATES AND FOREIGN DIPLOMAS.

DR. POTTER, of San Francisco, has published a lengthy article comparing European with American medical education (*The Journal of the American Medical Association*, July 19, 1890). He says: "Any American physician who is thrown into the society of European medical men, either at home or abroad, cannot fail to become sensible of a feeling of contempt for American medical education, and persons, which pervades the European to such an extent that, polite as he may be, he is never able to wholly disguise it. This sentiment is most freely exhibited by medical immigrants to this country, by gentlemen who come here to settle after having received a foreign medical degree or diploma. Many who show it most offensively are Americans by birth, though of foreign parentage, who have been sent abroad for their medical education. If hailing from the German or Austro-Hungarian empires, the diplomas possessed by these gentlemen do not qualify them to practise medicine in the countries where they were obtained. For not one in a thousand of such medical immigrants possesses the certificate of the State examination (*Staats-Examen*) of the country in which he was educated. Although their education is not of a grade sufficiently high to admit them to practise at home, they are admitted by our liberal laws and customs to all the legal rights and professional privileges enjoyed by the most highly educated physicians of our own or any other country. In return, very many of them rarely fail to sneer at our colleges and their graduates, or to promulgate the idea that foreign medical education is so superior to ours that American graduates are not worthy of being entitled physicians.

"This spirit pervades so many foreign medical men that it becomes exceedingly offensive to us at home, and equally humiliating abroad. Especially to those who believe, with the writer, that the assumption is unjust to our professional men and schools; and that it is based upon false information and prejudiced statements which find their way every now and again into the columns of the European medical press.

"That we ourselves are to blame for this contemptuous treatment from many who are inferior to our poorest graduates, is a fact which becomes apparent after devoting but slight attention to the subject. If we would honor ourselves, and our Harvards, Bellevues, Jeffersons, etc., by demanding from the lawyers who make our laws the application of the same tests to, and restrictions upon foreign graduates, which their governments apply to our graduates, we would strike at the root of the evil, and enforce respect with a single blow. If our laws were made to provide, for example, that no diploma from a German medical school or University would be recognized by the Pennsylvania State Board of Examiners until such times as graduates of Pennsylvania medical schools received similar recognition in the German empire, we would hear the last about fraudulent American diplomas being the distinguishing feature of our system of medical education. The authorities at Berlin and Vienna would then speedily take the trouble to inform themselves in regard to the character of our different colleges, and would soon learn to distinguish between fraudulent American diplomas and true ones, as clearly as they do between fraudulent and genuine American bonds and other securities in their financial transactions.

"The recent insolent action of the authorities of the medical school at Berlin, in denying to our graduates studying there the right to the letters "M.D." after their names in the catalogue, though giving it to graduated students from other countries, ought to open the eyes of every American physician, and excite a determined spirit of retaliation, unless we have lost our manhood entirely, and are satisfied to submit to any insult from any source. The first effect should be to draw our students away from Berlin, where they have been flocking of late years for post-graduate study, which can be obtained by the English-speaking student with much more direct benefit at London or Edinburgh."

Now, all this sounds very well, and we have repeatedly pointed out that persons not considered fit to practise medicine by their own governments should not be allowed to engage in medicine here before giving better evidence of their qualifications than the mere showing of a foreign diploma, about the acquisition of which our authorities generally possess not the slightest information.

At the same time, Dr. Potter weakens the force of his arguments by pleading the baby act as follows:

"When our difficulties are taken into consideration, when it is remembered that every American State, young or old, governs its own educational matters; that the central Government has no control whatever over the practice of any profession, except in its own courts, and in its own military and naval establishments; that, as yet, we have no endowments for our medical colleges; that, under our democratic institutions, every medical sect or delusion can obtain sufficient following to secure from the politicians charters for so-called colleges, with the right to issue diplomas; that we have three distinct bodies of medical practitioners, recognized by law, viz.: the Regular, the Homœopathic, and the so-called Eclectic; that every effort to secure the passage of laws to control medical practice and education is fought bitterly by two of these bodies, and by spiritualists, faith-healers, magnetic healers, Christian scientists, metaphysical healers, electro-biologists, *et hoc genus omne;* that juries in the large cities are often composed of the scum of European humanity; that such juries will not convict the most flagrant violators of medical laws; it is really a wonder that we have done as well as we have in this matter

of medical education. Only by the self-sacrificing labor of the much-abused professors in our great schools have these institutions reached the high standard which is conceded to them by all fair-minded investigators."

But the high standard here spoken of is precisely what is not conceded by foreign authorities. It is a standard which we have for years advocated, and will continue to earnestly advocate. But truth must prevail, and we might as well admit that, as now conducted, medical education in our country falls far below the ordinary European standards. With few exceptions, an American medical education, that shall in essential particulars equal the European one, is still a consummation to be wished, but by no means a *fait accompli*. Nor will the new era dawn before our medical colleges cease to be business concerns, which are run primarily for the benefit of the faculty. At present it is to the pecuniary interest of these "faculties" to attract as many pay-students as possible. This can be best accomplished by making the requirements for graduation as light as possible. A recent loudly-heralded attempt on the part of a prominent college to make even a three-year curriculum obligatory was speedily abandoned when it was found that the faculty pocket-book would severely suffer.

Almost all European schools make a five years' course obligatory, and in many cases six years are spent in study before a diploma is within reach of the candidate. It is simply silly for us to seriously pretend that we turn out our thousands of doctors every year in such shape that they are medically equal to their European confrères. At the same time, it is far from just that our country should be made the dumping-ground for professional paupers, incompetents, or scum generally. The United States return objectionable immigrants of all kinds to their respective homes. Before permitting medical immigrants to practise among our people let us demand the proofs that, in their own homes, they would be entitled to practise their profession. Those unable to supply such proof should be strictly denied the privileges granted to the possessors of American diplomas. There can be no harm in applying a little of the good old doctrine of "America for Americans" to the practise of our profession, otherwise we may yet be "ruined by Chinese cheap labor."

But as regards our institutions of medical learning, what we want just now is endowed medical schools that shall be absolutely independent in a pecuniary sense—colleges that do not have to curry favor with the callow masses of young men, who only "go into" medicine because it seems to hold out fair prospects of earning a decent living, at a minimum expenditure. Despite some painfully apparent modern tendencies in our profession, it cannot and must not be degraded to the level of a mere money-grubbing pursuit.

SEBORRHŒA AND BALDNESS.

In *Gaillard's Medical Journal* for May, 1890, Dr. George T. Jackson gives an interesting account of that very common and annoying affection, seborrhœa. This disease, while it causes little actual physical discomfort, is one which may interfere decidedly with the personal loveliness, and *propter hoc*, the mental quietude of both doctor and patient, for it disfigures the face and causes dandruff and baldness. It is well for doctors to know all that there is to be known about seborrhœa. There are, we are told, two kinds of seborrhœa, viz., the oleaginous and the dry. The oily form usually occurs most markedly upon the nose and forehead, and it shows itself unmistakably and frequently on warm nights, at social gatherings, forming a greasy coating upon the nose which the most careful powdering fails to disguise. Acne and comedones may complicate it.

But the dry form is the most common, and the one we are oftenest called upon to treat.

This most usually appears in the form of yellowish or grayish fatty plates or masses, which, when taken and rubbed between the fingers, impart a greasy feel. Upon the scalp it constitutes one form of dandruff. Here it may be general, involving the whole scalp, or it may locate itself in certain places in a more pronounced way than in others. The hair is dry, and after a time, the seborrhœa continuing, it begins to fall, and at last baldness is established.

The fact that dry seborrhœa is a cause of dandruff and baldness gives to it its special importance.

Ordinarily, this form is not accompanied with any redness or inflammation. But there is a second variety in which a varying amount of dermatitis is added to the seborrhœa. Then there will be a rim of redness about the fatty crust, and when the crust is removed from the skin, the underlying part will be seen to be red. In this variety there will be far more decided itching and burning than in the preceding variety. It is to be noted that although the skin is red, it is always dry and never infiltrated, in these respects differing from eczema.

While most authorities have held that seborrhœa is a disease of the sebaceous glands, Unna has asserted that it is in fact due to an involvement of the sweat-glands, and that seborrhœa sicca is in reality a seborrhœal eczema. This view is not yet an accepted one.

Various attempts have been made to find microbes which could be considered the cause of seborrhœa. The parasitic theory gains some plausibility from the fact that antiseptics are the best curative measures, and also from certain experiments in the inoculation of dandruff. There is enough merit in this view, also, to justify the person who does not wish to get bald prematurely in having his own brush and comb at the barber's. And it may yet be that antisepsis in the barber-shop is to be the preventive of premature loss of hair.

The treatment of seborrhœa is simple. Dr. Jackson recommends sulphur.

After the removal of the crusts by means of any oil, or grease (this should be done the first thing, whatever remedy is chosen), the sulphur is to be applied in the strength of a drachm to the ounce, either suspended in sweet oil, cotton-seed oil, or vaseline. It should be well rubbed into the scalp and the application repeated every night for one week. It is well to advise the patient to wrap his head up in a towel or to wear a nightcap. This for the benefit of the housekeeper, who will thank you for saving the pillow-cases. After one week's use of the sulphur, the head is to be washed with soap and water, and the oil, or salve, immediately reapplied. During the second week it will be sufficient to make the application every other night. Thus the treatment is to be continued,

the number of applications being reduced until they are made but once a week. By this time the disease will be cured. The patient is to be cautioned that relapses are likely to occur, and therefore it will be best for him to keep a supply of his oil, or salve, on hand, so as to attack the trouble as soon as it shows itself.

Mercurial ointments are almost equally efficient; and the Lassar treatment, which has already been described in these columns, is also said to be a good one.

BROMIDE OF GOLD IN EPILEPSY.

In 1888, Dr. Goubert, of Paris, published some observations relative to the efficacy of bromide of gold in epilepsy. He described eight cases of this intractable malady, which had been apparently cured by the internal administration of this drug. He claimed that the remedy proved effective in comparatively very small doses, not exceeding one-sixth of a grain. He also stated that the drug was free from all those unpleasant effects which so frequently interfere with the continued use of the other salts of bromine.

In the *Proceedings of the St. Petersburg Society of Psychiatrists*, a case of hysteria gravis is recorded, in which the auric salt of bromine proved highly beneficial, after many remedies had signally failed. Professor Danillo, also of St. Petersburg, has recently published a number of cases in most of which bromide of gold in doses of one-fifth of a grain, was likewise promptly efficacious in suppressing epileptic seizures. A further favorable report concerning the use of this remedy is given by Professor Rosenbach, of St. Petersburg. Bromidism was not observed by any of these physicians, even when the drug was administered continuously for a long time.

Acting on these favorable impressions, Dr. Alexander E. Shtcherbak, of Professor Mierzejewski's laboratory (*Vratch*, No. 9, 1890), has recently undertaken a fairly long course of experiments on dogs with exposed cortical motor area, the principal point being to study anti-epileptic effects of the drug in comparison with bromides of potassium and sodium. The gold salt was introduced either under the skin or into the femoral vein or into the stomach. The essential results may be condensed somewhat as follows (*The London Medical Recorder*): 1. Bromide of gold undoubtedly inhibits the cortical motor centres, and that even when administered in far lesser doses comparatively than the other bromides. 2. The most marked effects are observed when the drug is injected into veins, when even 0.005 gramme pro 1 kilogramme totally inhibits the fits. 3. Irritability of individual motor centres, as determined by the appearance of contractions in corresponding muscular groups, is depressed by bromide of gold in a but trifling degree. 4. Excitability of the white substance of the motor region remains intact. 5. The drug seems to affect mainly the tracts of communication between individual motor centres as well as between the latter and remote areas of the cerebral cortex. 6. It does not appear to possess any particular cumulative action comparatively with the other bromides. 7. Of accessory effects there are observed only vomiting (very rarely, and that solely on internal use) and some depression of pathic sensibility only on the use of larger doses, such as 0.15 gramme pro 1 kilogramme. Even prolonged administration never gives rise to unsteady gait, general depression or languor, and emaciation, all of which symptoms are observed in the case of bromide of potassium. 8. The physiological effects of bromide of gold (and their being different from those of the other bromides) cannot possibly be attributed to the proportion of bromide present therein, since the strongest of the three, bromide of gold, contains the smallest amount of bromine (55 per cent. by weight), while the weakest of them, bromide of sodium, shows the richest proportion of the element (77.7 per cent.), the potassic salt standing midway with 67.2 per cent. of bromine.

With so much testimony in favor of bromide of gold, it seems reasonable to bespeak for it a further trial by clinicians. Even if only a part of the claims made for it will be realized, we may confidently add the drug to the list of those remedies that may be used, in alternation with other salts of bromine, to subdue the many conditions associated with exaggerated cerebral activity. In true epilepsy it may be found to be at least as serviceable as most of the remedies now at our command.

THE DISPENSARY ABUSE IN OTHER LANDS.

If it is really any comfort to learn that one has company in his misery, we may perhaps pass a happy five minutes in contemplating the sorrows of our cousins across the water. They, too, are coming to appreciate the sad fact that there is too much free medical work done in the different cities, and are casting about for some means to diminish the evil that threatens their practise and their pockets. The overcrowding of the profession is becoming so apparent that even the lay press has observed it and commented upon it. A Scotch paper calls its readers' attention to the fact that there are now 28,348 registered medical practitioners in the United Kingdom, an increase during the past twelve months of 1,305. Since 1880 there has been an increase of 6,232, giving an average annual rate of over 600. This multiplication of doctors can have but one result in the opinion of our intelligent lay brother, and that is to cheapen medical services. As the ranks of the profession grow more crowded the competition must become keener, and the inevitable result of active competition is to lower prices. The writer thinks that the time is not far distant when medical advice will be as cheap as prescription paper, and he thinks it will be interesting to observe whether people are the better for the change. The *Medical Press*, commenting upon this remark, feelingly observes that medical advice is even now as cheap as, and even cheaper than, prescription paper, since a very large section of the community gets not only advice, but medicine for nothing. The profession is thus being cut in upon from two opposite sides. The Universities enrich themselves by passing men in crowds into the profession, and hospitals continue to multiply, and the means of subsistence for young practitioners is thus diminished, as the hospitals now take up the patients by which they, the juniors, in olden times lived, and were expected to live, during their professional novitiate. As a result, working-class practice has all but disappeared, except such of it as is taken up by club doctors at the princely remuneration of *2s. 6d.* per head per annum, medicine included; quackery is undoubtedly

rampant, professional degradation is manifest in the protean forms of advertising resorted to, popular lectures to women, ambulance lectures, *et hoc genus omne*. *Sauve que peut* is the slogan in the wild panic and rush for existence. Within the past few years an immense number of new hospitals have come into being, in support of which the public ear is assailed with wails under a benevolent cloak.

All this has such a home-like sound that we can hardly realize that the writer is referring to London and not to New York, and we almost expected to see mention made of the Rich Mans' Relief on Madison Avenue. The same paper in a later issue notes the fact of glaring abuse of out-patient medical relief by the Belfast Royal Hospital. The members of the Ulster Medical Society have taken the matter up, and are doing what they can to obtain an abatement of the evil. A deputation called upon the hospital authorities, and pointed out to them the fact that the out-patients had increased in a few years from 9,000 to 26,000 per annum, and they gave instances of many well-to-do, mean people who resorted to the hospital, and received medical advice and medicine at the expense of the charity.

The authorities were very civil, and kindly forbore to chastise the committee for their temerity in remonstrating with them for helping the poor, but they told them that there would be great difficulty in devising a remedy for the condition complained of. That again sounds very natural. Of course, if there should happen to be any falling off in the number of patients, the hospital would apparently be doing less good, and then the charity of the public could be less confidently appealed to. The better the report, the greater the number of patients, the greater the pride of the devoted directors, and the more substantial the contributions to carry on the noble work of pauperizing the community, and of impoverishing the medical profession.

A SIMPLE METHOD FOR ESTIMATING UREA.

In this age of diagnostic investigation, when every secretion and excretion is being made the subject of chemical examination, it is very important, unless we are to create a new specialty of chemical diagnosis, that the methods of investigation be made as simple as possible. Especially is it desirable to do away, as far as possible, with the necessity for special apparatus, which is expensive and liable to be broken. The methods also should be easy of application, for every physician cannot be an expert analytical chemist, and has not the time necessary to master the details of a long and intricate process; and if there is much liability to error in the manipulations, it would be far better for the ordinary man not to attempt them.

Drs. Heaton and Vasey, writing in the *Lancet* of May 10, 1890, describe a method of estimating urea which is simple, and, though not absolutely accurate, is still approximately correct in its results. The apparatus that is really necessary is of the simplest character. In addition to the ordinary pharmaceutical measures there are needed only a thistle-headed acid funnel, about one foot of glass tubing, and a couple of bottles. The following is an enumeration of the articles required: 1. An eight-ounce bottle is fitted with a thistle-funnel and a bent glass delivery tube, as though for the preparation of hydrogen. The lower end of the funnel should be bent upward, like a small hook, to prevent gas from passing up it. 2. A small basin or coffee cup may be used as a pneumatic trough, a four-ounce bottle being filled with water and inverted in it in such a manner that the end of the gas delivery tube can readily be brought under the mouth of the bottle. 3. A forty per cent. solution of caustic soda.

The analytical process, as described by the authors, is as follows: "1. Into the gas generator is poured by means of the funnel one fluid drachm of bromine washed in by ten fluid drachms of the soda solution. The generator may then be immersed in cold water, and the inverted bottle of water placed over the end of the delivery tube. 2. Two fluid drachms of urine, very carefully measured, are added and washed in by exactly one fluid drachm of water. The three fluid drachms so added will of course cause an equal volume of air to pass into the receiving bottle. This is allowed for in the appended table. The generator is gently shaken; brisk effervescence takes place, and gas equal in volume to the liberated nitrogen is collected in the receiver. The generator should be kept as nearly as possible at the temperature of the air. 3. When the evolution of gas ceases, the receiver is removed from the basin by means of the thumb or a glass plate, and placed mouth upward on the table. It is now only necessary to measure in minims the quantity of water required to fill it. After deducting 180 (which may be taken as 200) minims due to the air displaced by the urine, each 100 minims of water added represent 0.25 per cent. of urea in the urine examined. If the urine contains more than three per cent. of urea, it is best to dilute it with an equal volume of water before making the determination."

The volume of gas liberated varies in proportion to the amount of urea present, and the former is, of course, determined by the quantity of water required to fill the bottle. The following table may be used to estimate the percentage of urea from the amount of water which is necessary to refill the bottle:

Minims of water required.	Percentage of urea.	Minims of water required.	Percentage of urea.
200	0.00	900	1.75
300	0 25	1,000	2.00
400	0.50	1,100	2.25
500	0.75	1,200	2.50
600	1.00	1,300	2.75
700	1.25	1,400	3.00
800	1.50		

Notes on Naphthalin.—Naphthalin may affect the eyes in an extraordinary manner, as asserted by Dr. Kolinski, through its property of deleteriously affecting the nutritive property of blood. The eye being a highly vascular organ, its structure readily undergoes degeneration. The effects of the administration of naphthalin are ecchymosis, white patches in the retina, cloudiness in the lens, and crystals in the vitreous humor. In a Moscow weekly, Dr. Jmüidzinovitch, of Kopal, most emphatically recommends the internal use of naphthalin in cases of cholera nostras. The remedy should be given in the dose of 2½ grains every half-hour, in the form of powders with sugar. Vomiting, cyanosis, general convulsions, etc., are said to quickly disappear, even in cases where all ordinary means have proved totally useless.

News of the Week.

Mercurial Inunction and Tape-worm.—Dr. L. Oelkers reports the case of a syphilitic treated by mercurial inunction. A tape-worm passed by him contained mercury in large quantities.

The Odor of Ichthyol may be disguised by oil of citronella. The oil is employed in Ceylon against rheumatism.

A University for Toulouse has been proposed, and the preliminaries of its establishment are said to be well under way.

The Antifebrin Habit. — Dr. Suttle, of Corsicana, Tex., reports a case where a patient acquired a habit of taking antifebrin, which presented much of the mental symptoms of ordinary habits. The physical results closely resembled those produced by the chloral habit.

Death of Dr. Frank H. McDonald.—Dr. Frank Hewitt McDonald, a widely-known and highly esteemed physician of Harlem, died at his residence on Saturday, August 2d, aged forty-seven. Deceased was born in the north of Ireland, and graduated as a physician at the University of New York. Ten years ago he came to Harlem, and in a very short time, by his skill and his unselfish devotion to his patients, acquired a large practice; and at the time his health began to fail, his was one of the most extensive practices in Harlem. He was a member of the New York Academy of Medicine, the Society of Medical Jurisprudence and State Medicine, and the Harlem Medical Association. About three years ago he became afflicted with diabetes, and denying himself the proper rest and recreation, he gradually broke down an iron constitution. The immediate cause of his death was an attack of remittent fever. He leaves a widow and five children.

Pine-apple Juice is said to be largely employed by the negroes of Louisiana in cases of diphtheria. The success of this popular treatment is said to be eminently satisfactory.

The National Women's Health Association of America was organized in Philadelphia, July 23d, with Caroline Dodson, M.D., as President. Its object is to bring the laity and the medical profession into closer relations by the discussion of health topics.

Death Due to Vesical Endoscopy.—Dr. Albarran reports the death of a patient who had submitted to vesical endoscopy. The urine, examined after death, contained pyogenic bacteria.

The Cholera still Spreading.—Southern Europe is growing extremely nervous over the recent sudden spreading of the cholera, both in Spain and in the Red Sea districts. The prevalence of the epidemic in the latter section, although geographically remote, is far more menacing than its progress in Spain. At this season of the year swarms of pilgrims are concentrated upon Jeddah and Mecca, both of which places are veritable pest houses. Yet Moslem fanaticism and fatalism render quarantine impossible. Caravans resolutely throng the infected centres, and popular superstition prevents their return being impeded. The result must necessarily be that very soon Egypt, Tunis, and Algiers, and, in fact, the whole Mediterranean coast, will be overrun with the plague. It may be impossible to hold immunity for Naples and Marseilles. Both the French and Italian governments seem keenly alive to the danger, and are doing all they can to avert the devastation, but the best science can do is really very little. We practically know no more about either warding off the cholera or fighting it at close range than in the beginning of the memorable scourge of 1884.—*The New York Times.*

Do Medical Women Make a Living?—The *New England Medical Monthly* says, editorially, that there are not twenty medical women in New England to-day who are making a living by the practice of medicine. This may be true; but there are more than that number in Philadelphia who are making a fair living by the useful and honorable practice of medicine.—*Times and Register.*

Medical Reforms in Russia.—Russia is endeavoring to stamp out syphilis. In each district a special doctor is appointed to look after this disease exclusively, treat it, and enforce sanitary precautions. Special travelling dispensaries are provided to bring medical aid to the sufferers, and pecuniary aid is given to the families of syphilitics who are confined to the hospitals. The Russian government has also recently enacted some very stringent laws against the adulteration of food and drink. Any person guilty of adulterating any article of food will be liable to a fine of $200, or imprisonment for three months, for the first offence, double this penalty for the second, and deprivation of all rights as a citizen for the third.

Death of Dr. W. N. Blakeman. — Dr. William Nelson Blakeman died August 10th, at his home, 28 West Thirty-seventh Street, in the eighty-sixth year of his age. He was one of the founders of the New York Institution for the Blind, the New York Infant Asylum, and the Society for the Relief of Widows and Orphans of Medical Men. He was a member of the American Medical Association, the New York Academy of Medicine, State Medical Society, County Medical Society, and of the New England Society.

Antipyrine Dangerous in Typhoid Fever.—Dr. Jeffery of Richmond, Va., has found that in typhoid fever antipyrine reduced the temperature for the first few days, but afterward had no effect. He thought the drug too depressing to be safe, and that it did great harm in suddenly reducing high temperature, thus obscuring the true nature of the disease.

Treatment for Agalactia.—Dr. Messinger has used the following treatment successfully in cases of agalactia: Daily massage of the mammary glands; aloes in divided doses; cold sponging and friction of the mammæ morning and evening. After the third application of the massage, he noticed a bluish net-work of vessels on the anterior surface of the thorax. After the sixth, milk could be pressed out from the nipples, and after the sixteenth the flow of milk was usually fully established. The massage was applied by carefully stroking the gland, from the nipple centrifugally in all directions, with a fine foam of soap, in order to evacuate the veins, the masseur standing at the head of the patient.

British Comment on the Execution by Electricity.—Says a London correspondent in the *New York Times*: "English newspapers invested unprecedented sums of money in cable accounts of Kemmler's execution, and the Americans themselves can scarcely have taken greater interest in the ghastly episode than was exhibited everywhere here. Ordinarily, a certain section of the British press treats American affairs with judgment and candor, but in this instance there is no exception to the rule of stupidity in their comments. On all sides the humanitarian impulse which dictated the change is entirely ignored, and the experiment is wildly denounced as a wanton and flippant lapse into barbarism. Such editors as habitually abuse America leaped to the use of the incident as illustrating our native brutality, while the intelligent remainder for once lacked the sense to see what the thing really meant. Opponents of capital punishment throughout Europe seem convinced that the harrowing story sent out from Auburn will create a powerful and wide-spread sentiment against the death penalty in any form." We may add that this wide-spread sentiment will do credit to every nation claiming to be thoroughly civilized, and that we hope to see the day when the State will no longer take life, but use every possible precaution against its being taken.

The Health Department of Providence, R. I., has issued a circular which contains the following suggestions for the prevention of phthisis: 1. No person with consumption should ever spit on the floor or in the street. If handkerchiefs or bits of cloth are employed, they should be at once disinfected or burned. A good plan is to use a small, wide-mouthed bottle with a rubber stopper. The contents should be thrown into the fire and the bottle and stopper thoroughly scalded with boiling-hot water every day. 2. The dishes used by a consumptive should be at once scalded, and the unwashed underwear and bed-clothing should not be thrown with that of other persons, but should be thoroughly boiled as soon as possible. 3. When a person with consumption has diarrhœa, the discharges from the bowels should at once be disinfected, as at this time they contain the disease germs. A good way is to add a half-teacupful of fresh chloride of lime, or fill up the chamber vessel with boiling water. 4. No one with consumption should sleep in the same room with another person, and the room occupied by a consumptive should be thoroughly cleansed as often as possible. 5. No mother with consumption should nurse an infant, and children ought never to be taken care of by a consumptive person.

The Ernest Godard Prize of $100 will be awarded at the close of this year by the Society of Biology of Paris. Competing essays are to be sent to the secretary, 15 Rue de l'Ecole de Médecine, Paris.

Consumption of Opium.—The total annual home consumption of opium in China has lately been reckoned to be about forty-one million eight hundred thousand pounds.

Hydronaphthol is recommended by Dr. Clarke in typhoid fever, green diarrhœa of infants, dysentery, and ordinary diarrhœa. He gives two to three grains every two hours. In flatulent dyspepsia and dilatation of the stomach it is of little use. Nausea is caused in some cases.

The Chicago Medical Society Denounced.—The Omaha Medical Club is setting an excellent example to the men running the Chicago Medical Society, by its war on quacks. The enforcement of the medical practice act in Chicago is left to the overburdened State Board of Health, while the Chicago Medical Society wars on its own members who are desirous of elevating the status of the profession by disciplining members guilty of alliance with blackmailing newspapers in their attack on reputable medical men. The Omaha Medical Club, however, does not have the cheap medical politicians for its leaders, such as now constitute the ruling minority of the Chicago Medical Society. The Chicago medical profession should realize that only by its own efforts can the city be rid of the charlatans who subsidize the local newspapers. The Omaha and New York profession have set it examples meriting emulation.—*Medical Standard.*

Sir Spencer Wells is the Bradshaw lecturer at the Royal College of Surgeons for the year 1890. The lecture will be given in November.

Uterine Procidentia in an Infant.—A Norwegian physician reports the case of a seven-days-old infant which was attacked by diarrhœa resulting in severe straining, followed by rectal and vaginal prolapse. The next day there was uterine procidentia. The uterus was replaced but prolapsed, and so continued until the child's death, six weeks after.

An Italian Crusade against Quackery.—The Italian Minister of the Interior has sent a circular to all the prefects in the kingdom, pointing out that in many parts of Italy dentists do not confine themselves to the practice of their own art, but sell medicines, plasters, and ointments, which they declare to be good for all kinds of disease, and in other ways infringe on the prerogative of duly qualified medical men. He calls on the prefects to use every legal means of suppressing "not only the wrongful exercise of the healing professions generally, but more especially the pompous display of such illegal practice in public places." The mayors of communes are directed to absolutely forbid such practitioners from occupying public spaces.

As it was Formerly.—A statute of Henry VII. runs as follows: The practice of the healing art should be limited to those persons that be profound, sad, and discreet, groundly learned, and deeply studied in physic.

A French Student of Medicine on German Students.—In the *Lyon Médical* a French student of medicine has published his impressions of German students and student-life. He says that, at first sight, it would appear that German students devote less time to study, and more to pleasure and extraneous pastimes, than the students of France. But closer observation reveals the fact that in German universities, just as elsewhere, there are students who study very much as well as those who study very little. The less studious ones attract public notice to a much greater extent than their diligent companions, and hence the error of supposing all of them to be uniformly lazy. Excessive beer-drinking and duelling are indulged in by an insignificant minority. The bulk of the inscribed students rarely miss a clinic or a lecture, although attendance is not at all compulsory.

Everybody is a Job when the boils are on the other fellow.

Society Reports.

International Medical Congress.

TENTH SESSION.

Held at Berlin, Germany, August 4, 5, 6, 7, 8, *and* 9, 1890.

(Special Cable Report to the MEDICAL RECORD.)

(Continued from p. 160.)

No General Meetings on Thursday and Friday.—No general meetings were held on Thursday and Friday, the entire days being devoted to section work.

Large Number of Papers Read before Sections.—A great number of papers have been read in the various sections, some few being of considerable interest. The section meetings were, for the most part, held in the Exhibition building, where ventilation was defective and much suffering was caused by the heat. The halls opened one into another, and much confusion was created by the passing of persons to and fro through the building, the noise sometimes being so great that it was impossible to hear the speaker when sitting at a little distance.

German Papers only Listened to.—Unfavorable comment was made by some that papers in the German language only were listened to with attention. During the reading in French or English, the German members left the meeting or walked about and conversed, thus causing great annoyance to the speaker and those who desired to listen. In one section the member appointed to read a paper in English refused, saying it would not be listened to, and he did not wish to waste his time. The paper was therefore read by title.

Balls.—On Thursday evening balls were given in honor of the Congress. On account of the large number of guests it was found impossible to entertain all in one place, so five different balls were given, in the Central Hotel, Kaiserhof, Imperial Hotel, the Philharmonic, and the Zoölogical Garden, all being well attended, that at the Philharmonic being the largest.

Court Reception and Excursions.—Friday afternoon there was a court reception given to about five hundred selected guests, and several sections made excursions to Potsdam and the lakes of Havel. Friday evening, as also every evening during the week, various private dinners and receptions were given by Berlin physicians to specially invited guests. Many sections were also entertained by resident chairmen or special medical societies of Berlin.

Visit of the Empress Frederick.—The Empress Frederick visited the Exhibition Saturday morning, accompanied by a maid of honor, and was escorted through by the Committee.

Final General Session.—On Saturday morning the last general session was held in the Circus Renz. The first address was that of PROFESSOR WOOD, of Philadelphia, which had been postponed from Wednesday.

Anæsthesia.—Professor Wood took for his subject "Anæsthesia," which shared with antisepsis, he said, the honor of being one of the two epoch-making discoveries of modern times. Although both had been instrumental in saving multitudes of human lives, yet both had also been the means of destroying life. Antiseptic agents, as now employed, have nearly ceased to be dangerous, but anæsthesia is even yet almost daily adding to the number of its victims, and the problem of how to prevent this sacrifice is well worthy the study of this medical gathering.

Nitrous Oxide Anæsthesia is asphyxia, but differs from mechanical asphyxia in the fact that the phenomena present are the result of a lack of oxygen, without any excess of carbonic acid, in the blood. In death from this agent respiration ceases while the heart is still in full activity, and in the few experiments made by the speaker, artificial respiration was always successful in restoring vitality, even after complete paralysis of the respiratory function. Nitrous oxide is the safest of anæsthetics, but is not practicable during long-continued operations. Inhalation is usually followed by sudden rise of arterial pressure, hence there is danger of apoplexy in case of atheromatous arteries.

Comparative Safety of Ether and Chloroform.—The speaker then took up the subject of the comparative safety of ether and chloroform. It was impossible to gather accurate statistics, but the latest figures collected by Lawrence Turnbull showed that the ratio of deaths from chloroform was four or five times that of deaths from ether. The results of the author's experiments to determine the mode of death under chloroform were not in accord with the report of the Hyderabad Commission, for he had proved beyond doubt that chloroform is a cardiac paralyzant, and often does kill dogs by direct action upon the heart or contained ganglia. The difference in results might be explained on the hypothesis that heat, or other climatic conditions surrounding the pariah dog, render the heart less sensitive to the action of the drug than is the heart of the dog bred in northern lands. Supporting this supposition is the fact that chloroform can be given in the Southern United States with far greater safety than in the Northern States of the Union.

The speaker said the following facts in regard to anæsthesia must be regarded as established: First, the use of any anæsthetic is attended with appreciable risk, and no care will prevent occasional loss of life; second, chloroform acts much more promptly and powerfully than ether, both upon the respiratory centre and upon the heart; third, the action of chloroform is more permanent than that of ether; fourth, chloroform is capable of arresting primarily either respiration or cardiac action, but usually abolishes both functions at about the same time; fifth, ether usually acts more powerfully upon the respiration than upon the circulation, but occasionally is a cardiac paralyzant, and may cause death by cardiac arrest while yet respirations are fully maintained.

Treatment.—As regards treatment, the author's experiments proved that amyl nitrite, caffeine, and atropine were of little use, while injections of alcohol or ether increased the danger. Ammonia is of some service, but of all remedies tried digitalis acted most powerfully in stimulating failing circulation. Strychnine also acted efficiently. Alternately elevating and depressing the feet of an animal dying under anæsthesia was sometimes of great service. Most efficacious of all measures was forced artificial respiration by a modification of Fell's method. In concluding, the speaker formulated measures to be employed in case of threatened death during anæsthesia: Give tincture of digitalis hypodermically; draw out the tongue and see that respiration is not mechanically impeded; invert the patient briefly and temporarily; use forced respira-

tion promptly; apply external warmth and stimulation of the surface, and, above all, avoid the exhibition of alcohol.

Dr. Wood's address was listened to attentively, and was very well received. It reflected honor upon American medicine, and Dr. Jacobi is to be congratulated upon having made so happy a selection when he was called upon to appoint an orator from our country.

Antipyresis.—After this came the address of PROFESSOR CANTANI, of Naples, entitled "Antipyresis." The speaker first sought to define fever, during which process there is more rapid consumption of tissues. Not all tissues are consumed at the same rate. In malaria the blood-corpuscles suffer most, whence arises anæmia. In typhoid the nervous tissues are attacked, whence come debility, somnolence, etc. In tuberculosis all parts except the nervous system are implicated; this explains the preservation of mental activity and hopefulness to the very last.

In combating fever we can increase heat radiation or diminish production. The former is of only temporary use. We must employ remedies attacking the fever process itself. Internal antipyretics, however, reduce the temperature only and do not influence the disease itself.

Fever is only an accompaniment of the disease, and the expression of the struggle of the organism with disease-producing agents, and is often an aid to the organism in this combat, and is therefore to be reduced only when itself threatens life.

Professor Cantani regarded cold water externally and internally as the best antipyretic in most cases.

Synchronous Action of Different Parts of the Brain, was the title of the third address, by PROFESSOR MEYNERT, of Vienna. The speaker opposed the theory of specific action of sensory nerves, and believed their excitability to special stimuli was the result of education. Ability to distinguish colors, sounds, and the like is no more congenital than is a knowledge of the alphabet. This theory would remove the scientific prop from some of the exaggerations of the doctrine of descent, for functions begin only with completion of organic form, and the germ holds within itself no functions. The ego is the result of all conscious perceptions collected in cortical substance.

Resisting Powers of Europeans in the Tropics was the subject of the last address, delivered by PROFESSOR STOKVIS, of Amsterdam. Racial pathology is a new science, the object of which is to determine the effect upon individuals of climatic change, and to learn how these climatic influences can be resisted. Study of disease among troops in tropical countries shows many peculiar facts. Native soldiers suffer from tuberculosis more than Europeans, but the latter suffer more frequently from hepatic disease. This, however, is due more to improper diet, especially abuse of alcohol, than to influence of climate. Of late years hygiene has made great advances in the tropics, and the result has proved that Northerners may reside permanently in hot countries without danger, provided they observe hygienic rules. Jamaica was once considered the graveyard of Europeans, but now mortality there is less than in Spain or Italy. The study of racial pathology has already shown that the susceptibility of Europeans, compared with natives, to disease in the tropics is not due to racial peculiarity, but to difference in the mode of living. The speaker urged the medical profession to greater devotion to the new science of racial pathology, the study of which has already led to beneficial results, and promised even better in the future.

The address was exceedingly interesting and well delivered, and caused much favorable comment.

Farewell Address.—PROFESSOR VIRCHOW then delivered the farewell address, and said he hoped the members would carry home the conviction that Germany was great in peaceful pursuits. In science there was no division of races or religions. The speaker thanked the members, and the city, state, and imperial authorities for their respective parts in the advancement of the interests of the Congress, and hoped to greet his fellow-members three years hence in Rome.

Closing Speeches.—DR. BILLINGS then spoke in behalf of American members, expressing their thanks for all the courtesies they had received.

PROFESSOR SCHNITZLER, as representative of Austria, also returned thanks to all who had contributed to the success of the Congress. The brilliant meetings in London and Copenhagen had been surpassed by that in Berlin, for there is in the German capital a scientific atmosphere the like of which was never felt elsewhere. He referred especially to the medico-scientific exhibition, which was really one of the most noteworthy features of the Congress, and hoped it would result in the establishment of a permanent medico-technical museum. The work of the Congress was not evanescent, for its influence would be felt always.

Then followed speeches in a similar vein by the medical representatives of Hungary, Japan, and Russia.

In the name of Belgium, PROFESSOR THIRY bore witness to the pleasant impressions which the members of the Congress would carry to their homes from Berlin.

The Swedish delegate, PROFESSOR HOLMGRON, also spoke, dwelling especially upon the close relations between Germany and the Scandinavian nations.

PROFESSOR BOUCHARD then rose to speak in behalf of France, and was received with great applause. He returned thanks in graceful words for the gracious welcome extended to himself and countrymen, and hoped that after the meeting in Rome the Congress would convene in Paris.

Still other addresses by representatives of various nations followed, and finally PROFESSOR BACCELLI, of Rome, expressed in Latin his admiration for German science, his thanks to the management of the Congress, and his high personal regard for Virchow. The latter responded, also in Latin, to the graceful compliment, and then declared the labors of the Tenth International Congress ended.

A Very Successful Meeting.—The Congress must be pronounced on the whole a very successful meeting, both as to the number of participants and the amount of work done. The weather was very warm, but was favorable in that there was no rain. Critics disposed to grumble could of course find good cause for so doing, but any shortcomings of management were excusable because of the unexpectedly large attendance.

The total number of members was 5,737, of which 683 were from the United States and Canada, 3,180 from Germany and Austria, and 179 from France.

The social part of the Congress closed with a reception in Kroll's Garden, given by the Berlin physicians and their wives to the members. It was an elegant affair and largely attended.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 5, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

Bacteriological Researches in Yellow Fever.—GEORGE M. STERNBERG, Surgeon, U. S. A., spoke upon this subject: In 1879, as a member of the Yellow Fever Commission sent to Havana by the National Board of Health, he devoted himself especially to a search for the specific infectious agent in the blood of patients in various stages of yellow fever. The result of this research was negative.

Extended researches made during the past two years, by the most approved bacteriological methods, fully confirm this negative result. Exceptionally, micro-organisms are found in cultures from the blood and tissues, even when the autopsy is made very soon after death, but the bacillus encountered most frequently has been identified as the *Bacterium coli commune* of Escherich, which is constantly present in the intestine of healthy persons, and consequently cannot be the specific pathogenic agent in yellow fever. Other micro-organisms associated with this are found so exceptionally and in such small numbers that no special significance can be attached to their presence.

The examination of thin sections of the liver, kidney, and other organs, stained by the most approved methods for demonstrating micro-organisms, gives results corresponding with those obtained by culture methods.

That various micro-organisms are present in small numbers in the liver and kidney (and presumably in other organs) at the time of death, is shown by preserving fragments of considerable size in an antiseptic wrapping, which destroys all micro-organisms which may have accidentally fallen upon the surface of the fragment and prevents the entrance of germs from without.

Such a fragment, preserved for forty-eight hours at a temperature of 27° C. (80.6° F.), always contains a large number of bacilli of different species, which have evidently developed from scattered bacilli present in the organ from which it was taken at the autopsy.

These bacilli are for the most part anærobics, or facultative anærobics, and do not give rise to a putrefactive odor. The tissue containing them has a very acid reaction. Putrefactive organisms are also present, and pieces of tissue kept for a longer time give evidence of putrefactive decomposition.

The micro-organisms present in fragments of liver and kidney preserved in the way indicated have been carefully studied, and numerous comparative researches have been made, since his return from Havana, which show that those most constantly and abundantly present are not peculiar to yellow fever. In cases of accidental death, and of death from other diseases, fragments of liver preserved in the same way have contained the same micro-organisms.

His bacillus N, a large anærobic bacillus, which for a time he thought might be the specific germ he had been in search of, he had found in these comparative researches, and was obliged to exclude it from further consideration from an etiological point of view.

One bacillus, however, which was found in a considerable number of cases of yellow fever, in pieces of liver preserved in an antiseptic wrapping, although not in very great numbers, had not been found in his comparative autopsies. This was a non-liquefying bacillus which resembled the colon bacillus in its growth in flesh-peptone-gelatine and in its morphology, although it was somewhat larger. It was also more pathogenic, especially for rabbits. This was his bacillus X. Not having excluded it by his comparative researches, he looked upon it as being possibly the specific yellow-fever germ, but had not been able as yet to obtain any satisfactory experimental evidence that such was the case.

This same bacillus was found in the contents of the intestine, where it was associated with a variety of other bacilli, some of which were strict anærobics and some facultative anærobics. The most constant and abundant of these was the *Bacterium coli commune* of Escherich.

Comparatively few liquefying bacilli are found in the contents of the intestine or stomach, or in cultures from pieces of liver and kidney preserved for forty-eight hours in an antiseptic wrapping. The bacillus of Dr. Paul Gibier has been found in the contents of the intestine in a limited number of cases, but it had been absent in a majority of the cases in which the speaker had made autopsies—forty-three in all—and when present had not been abundant as compared with the non-liquefying bacilli. Nor was it found in any considerable number of cases in his cultures from fæces collected during the lifetime of the patient.

There was, therefore, no good reason for supposing that this bacillus had anything to do with the etiology of yellow fever. And, as a result of his extended culture experiments, he felt justified in asserting that yellow fever is not due to a liquefying ærobic micro-organism.

The micrococcus which Dr. Domingos Freire presented to him as his yellow-fever germ, at the time of his visit to Brazil, grows readily in flesh-peptone-gelatine, and causes liquefaction of this medium. Its presence would therefore be readily ascertained by the culture methods which the speaker had employed. It had not been present in a single instance in his cultures from the blood and tissues or from the contents of the intestine. It was therefore excluded from consideration as being concerned in the etiology of yellow fever.

The Tetragonus Febris Flavæ of Dr. Carlos Finlay, of Havana, is a common atmospheric organism in that city, which Dr. Sternberg had obtained in cultures from the surface of the body of patients suffering from various diseases, and of healthy persons. He had not obtained it in his cultures from the blood and tissues, and considered it definitely excluded as the possible etiological agent in the disease under consideration.

The morphological characters and mode of growth, in various culture media, of the different micro-organisms referred to, and of others encountered in his bacteriological researches, were demonstrated by projecting upon a screen his photo-micrographs and photographs of colonies and test-tube cultures.

A detailed report, containing a full account of the researches made during the past two years in Havana, Cuba, and at Decatur, Ala. (1888), was nearly completed, and would be submitted to the President within a short time.

A Change of Home.—The PRESIDENT stated that this would be the last meeting to be held at this hall, where the Academy had made its home for nearly twenty years. The next meeting will take place at West Forty-third Street, October 2d. The Academy voted affirmatively on the resolution to issue bonds to the amount of thirty-thousand dollars.

At the conclusion of the exercises a collation was served.

SECTION IN SURGERY.

Stated Meeting, January 13, 1890.

ROBERT ABBE, M.D., CHAIRMAN.

Election of Officers.—Dr. Robert Abbe was re-elected Chairman, and Dr. Charles A. Powers, Secretary.

Excised Elbow.—DR. W. T. BULL presented a young man to illustrate the result of excision of the elbow for anchylos, is whichhad taken place in the most undesirable position (a straight line). It had followed T-shaped fracture of the lower end of the humerus in December, 1888. Only ten weeks had elapsed since excision was performed, yet the man could flex the arm to an acute angle, and extend it to not quite a straight line. Passive

pronation and supination were possible, and these movements were expected to become voluntary with increased muscular power. The head of the radius and both condyles of the humerus were removed, amounting to about an inch in extent.

Shawl-pin Recovered from a Child's Bronchus.—Dr. Bull also presented a shawl-pin, two inches and a fourth long, the head a fourth of an inch in diameter, removed by tracheotomy from the right bronchus of a child two years of age. The pin had remained in the bronchus five days, and given rise to some pain, loss of appetite, vomiting, purulent expectoration, and some evening rise of temperature. There was marked diminution of the respiratory murmur over the whole of the right lung. The incision was made in the median line, its lower edge on a level with the sternal notch, and he was pleasantly disappointed in being able to withdraw the pin without any difficulty or injury of the trachea.

Free Excision Necessary.—Dr. R. F. Weir remarked that an inch and a half was the least amount which one should excise in order to obtain motion in an anchylosed elbow-joint.

Bifurcation of the Trachea within Easy Reach.—Dr. Weir also remarked that it appeared few surgeons appreciated how readily accessible to instrument, or to the finger, even after a tracheotomy had been made, was the bifurcation of the trachea, at which point foreign bodies entering the air-passages were likely to lodge and demand removal.

Fracture of the Skull.—Dr. Thomas Manley presented a man who had sustained fracture of the skull twice, the first time several years ago, above the occipital protuberance, from which he recovered without an operation after lying in Bellevue Hospital unconscious for several days. The second fracture took place on November 20th last, in the left parietal bone, near the median line, a little back of the coronal suture. A convulsion and some symptoms of hemiplegia appearing toward evening, he chiselled out about the fracture, and when the middle piece of bone was lifted venous blood escaped, indicating, he thought, injury of the longitudinal sinus. Hemorrhage was controlled by a compress. The patient was then about, but there was still a depression, and the bone at the posterior edge of the wound was believed to be slightly necrosed and would require removal. It did not seem that implantation of the removed pieces of bone would have been successful in this case.

Resection of the Intestine for Strangulated Hernia.—Dr. Manley also presented a portion of the intestine which his house surgeon had excised from near the ileo-cæcal valve in a case of strangulated hernia. The patient did very well for three days after the operation, when pain and prostration set in, and death took place during the night. The autopsy showed that two of the sutures had given way.

Fracture through Coracoid Process of the Scapula.—Dr. F. J. L. Hupp presented a man, seventy-one years of age, who fell on the sidewalk, November 20th, striking the shoulder, and was found, when he entered the Presbyterian Hospital, two weeks later, to have fracture of the coracoid process of the scapula, a diagnosis which Dr. Powers confirmed after two weeks of hospital treatment, from the presence of thickening of the coracoid process. He stated that fracture here was very rare.

Angio-sarcoma at the Shoulder joint; Fracture, Amputation.—The specimen was presented for Dr. Weir by Dr. C. A. Powers, who first saw the patient in Chambers Street Hospital, from whence he was sent to the New York Hospital, where Dr. Weir operated. A man, aged twenty-two, had, ten weeks before, fallen and struck forcibly upon the left shoulder. Previous to that time there had been no indications of shoulder trouble. Immediately afterward he sought medical advice, and was treated for contusion without confinement of the arm. During two weeks there was constant motion of the shoulder-joint, when he fell under Dr. Powers's care, who made a diagnosis of surgical fracture of the neck of the humerus. There was then considerable swelling of the shoulder-joint, which even became greater after he applied a plaster-of-Paris dressing. The hypodermic needle only withdrew blood. Four or five weeks after the injury the patient was sent to the hospital, and Dr. Weir made an incision down on the outer surface of the shoulder and found a cavity of considerable size filled with fresh and clotted blood; also fracture through the surgical neck, with disorganization above and below. The pathologist found no signs of malignant change in the particles removed, but as the swelling continued Dr. Weir felt that it was a neoplasm, and amputated at the shoulder-joint. The patient was very weak and succumbed to the operation. The pathologist then found typical angio-sarcoma.

Thought the Fracture caused the Angio-sarcoma.—Dr. Powers thought the fall produced the fracture, and motion in the arm two weeks afterward hastened, or possibly caused, the sarcoma.

Thought the Angio-sarcoma led to Fracture.—Dr. Weir said the question came to his mind whether the neoplasm of the bone did not exist first, and make fracture easy at the time of the fall. He had once seen a case of fracture of the thigh which evidently had resulted from sarcoma, although the surgeon who treated the patient had not recognized this cause. In this case, had there been ordinary fracture without sarcoma, the patient could not have gone two weeks with the arm free from pain; besides, if the neoplasm developed after the injury, its growth was remarkably rapid. The case also showed that clinical experience was sometimes worth more in diagnosis than microscopical examination of structures removed.

Dr. A. Jacobi said he had not the slightest doubt but what the sarcoma had developed before fracture took place, for such was the rule, and not the reverse. Slight injury would cause fracture of the diseased bone. For instance, a syphilitic bone would sometimes give way under muscular action while the man lay in bed.

Enormous Polycystic Kidney; Nephrectomy.—Dr. R. F. Weir presented a polycystic tumor, weighing over two pounds, measuring over ten inches in length, five in breadth, and four in depth, removed from a woman, thirty-three years of age. It had been felt through the abdominal walls as an elongated mass containing nodules, which could be distinguished from tumor of the spleen only by inflating the gut when this rose over the tumor. The patient's condition was good, barring pain in the abdomen and down the left thigh, and size of the tumor. Urea was diminished one-half, some albumin; specific gravity a little low, no casts. The tumor was enucleated, the vessels and ureter tied, and the opening in the posterior wall of the peritoneum, three inches in length, closed by sutures after a drainage opening had been made in the loin from under outward. The operation was performed Friday, and the patient was now doing well. Usually in such cases both kidneys were diseased. This lesion, probably here an acquired one, was also found in intra-uterine life, and children born with it seldom became of age.

Polycystic Kidneys in Poisoned Rats.—Dr. Morris said he once had occasion to experiment on some rats, giving arsenic to a large number, which killed immediately only a few, and three or four months later, on killing forty or fifty with strychnine, he found in most of them polycystic kidneys. Had the arsenic previously administered caused the change in the kidneys?

Intra-capsular Fracture of the Hip.—Dr. A. M. Phelps presented a specimen found in the dissecting-room in a subject who had had suppurative disease. There was an old intra-capsular fracture at the hip-joint, new bone having been thrown out around the head. An abscess cavity led through the acetabulum into the pelvis. The case showed that it was impossible to treat all these cases of hip-joint disease successfully by splints, for here nothing but operative procedures would have answered.

Plaster Casts which will not Break.—Dr. Phelps also showed a plaster-of-Paris hand covered by plumbago and a precipitate of copper, which rendered it non-breakable and improved its appearance.

Dr. James E. Kelly then read a paper entitled "Operative Treatment of Hernia, Syphilitic Lymphadenitis, and Hydrocele of the Cord."

Operations for Hernia Diminishing.—The Chairman remarked, in calling for discussion on the paper, that the general drift of surgical feeling at present was to avoid operating in many cases which would have been operated upon three or four years ago.

Different Methods about Equally Successful.—Dr. Weir agreed with the remark just made by the Chairman. Surgeons had for several years past tried to devise a certain method for curing hernia, and they had not yet succeeded. No method was entitled to special consideration which had not been put to the test for at least two years, and so far only Macewen's, in that surgeon's own hand, had given a better result than seventy per cent. of cures, and all had a mortality rate. Every method put forward showed for some months a large percentage of cures, but relapses took place later. In a small or recent hernia he could promise a cure by operative measures, but not in others. He inclined to restrict the operation to this class of patients, and to those having distressing large hernia; in these, if recurrence took place, the resulting hernia was easily controlled.

No Longer Enthusiastic.—Dr. Bull said that some years ago his enthusiasm regarding the treatment of these cases was not less than that of the author's, and it continued until time elapsed to show the results. At the end of two years there was a good proportion of cures; at the end of three there were fewer; at the end of four, five, and even six years, it was hard to find a case in which there had not been recurrence. He agreed with the author that cases should not be operated upon which were comparatively safe with the truss. Indications were, strangulated or irreducible hernia. He did not think the open method of McBurney could be called the simplest, nor was it well to destroy the obliquity of the canal. At the Hospital for the Ruptured and Crippled relapses were seen in cases operated upon by every method, by various surgeons.

Time may yet give us a perfect operation, so thought Dr. Manley.

Excision of Buboes.—Dr. Syms had operated for buboes in the manner described in the paper, with success.

Why he Doesn't Operate.—Dr. De Garmo said he was frequently asked why he did not operate upon hernia oftener than he was accustomed to do. He had to answer that his time was taken up largely with treating mechanically the failures of other operators. This was especially true of so-called open operations. These were the worst to manage mechanically when relapses had occurred. Instead of having a hernia coming out through the external ring, surrounded by fibrous tendons, it met no resistance except at the internal ring, where the parts were known to be soft and yielding, and difficult to control by truss and pad. Contrary to his former custom, he now advised gymnastic exercises while wearing the truss.

Dr. Kelly closed the discussion.

A Rare Case of Urinary Extravasation down the Thigh from Deep Urethral Rupture.—Dr. Eugene Fuller read the history of the case.

Urinary Extravasation Among the Glutei.—Dr. Powers said that of the many cases of urinary extravasation which he had seen at the Chambers Street Hospital, in but one did the urine take an unusual course. In that instance it appeared in the buttock on both sides, causing swelling and bagginess. Free deep incision was made, and the patient made a slow but complete recovery.

Dr. Brewer had, nine years ago, seen a case of pus in the lower part of the pelvis take the same course as the urine in the case related by Dr. Fuller.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, April 23, 1890.

J. West Roosevelt, M.D., President, in the Chair.

Pachymeningitis Interna Hæmorrhagica.—Dr. William P. Northrup presented a card specimen showing the early stage of pachymeningitis interna hæmorrhagica. The specimen was from a child, two months of age, the subject of congenital syphilis.

Pachymeningitis Hæmorrhagica.—Dr. E. D. Fisher presented a specimen showing this lesion. The patient had presented no especial symptoms during life, except a mental dulness, and no diagnosis had been made. At the autopsy there was found to be an old pachymeningitis with recent hemorrhage.

Aneurism of the Aorta.—The patient from whom this specimen was removed was a man, fifty-five years of age, born in Switzerland, who was also a sufferer from goître. He had been in bed all the time, and presented no symptoms whatever pointing to aneurism. At the autopsy there was found an aneurism involving the ascending aorta and the arch. The heart was also somewhat dilated. The question that had occurred to the speaker was whether there were any connection between the aneurism and the goître. There had been no dyspnœa noticed, for the man was always in bed, and there had, in fact, been no symptoms at all except marked stupidity.

Diaphragmatic Hernia.—A third specimen was one removed from the body of a woman at autopsy. The woman had had a strangulated inguinal hernia, and had vomited a great deal, and was much exhausted. The strangulation was relieved, but she died suddenly soon after. At the autopsy there was found a small opening in the diaphragm through which about half of the stomach had passed.

Extensive Destruction of Brain Tissue.—The fourth specimen was one removed from an old case of hemiplegia. The dura was found adherent to the convex surface, especially along the longitudinal fissure. There was atrophy and sinking in of the convolutions, and on cutting into them the left lobe was found almost completely disorganized. The speaker thought that this was due to the hemorrhage, the only question being whether there had been also an abscess of the brain.

Chronic Endocarditis with Vegetations.—Dr. H. P. Loomis presented specimens showing chronic endocarditis with vegetations and secondary sepsis, simulating acute ulcerative endocarditis. The patient, John M——, was brought into Bellevue Hospital in a semi-conscious state, and nothing concerning his previous history could be learned. When seen by the house physician the patient was sitting up in bed suffering from intense dyspnœa. There was general dropsy and cyanosis was marked. It was impossible to diagnose the cardiac lesion by the murmurs. The temperature was 104° F.; the pulse was 140, feeble and irregular. Petechial spots were visible over the entire body, more especially on the lower extremities. Ten hours after admission the patient died.

Autopsy.—The pericardium was normal. The heart was hypertrophied and weighed sixteen ounces. There was dilatation of the left ventricle, the thickness of its wall being only 8 mm. All the aortic cusps were thickly coated with vegetations of a grayish yellow color, presenting a fungous appearance, and extending from the attached border of the valves for a distance of 2 ctm. The edges of the erosions were uneven, granular, and somewhat hidden beneath the fungating growths surrounding them. The vegetations were firmly attached to the surface of the endocardium, and on microscopical examination were found to be made up of fibrin and granular débris with some cellular elements. At the base of the vegetations was thickened and inflamed endocardial tissue, in which, on staining with fuchsin, were found micrococci. There was stenosis of the mitral valve, but no vegetations or ulcerations were found around the valvular

orifice. Both lungs were normal, with the exception of a gangrenous cavity in the upper portion of the lower lobe of the right lung, close to the root of the lung, 6 ctm. in length and 3 ctm. in width. The edges of the abscess were irregular, but limited by newly formed connective tissue plainly visible to the naked eye, and its cavity contained broken-down pulmonary tissue and cheesy pus. A large vessel leading to the abscess cavity was obstructed by a white thrombus 2 ctm. in length. All the bronchial glands at the root of the lung were greatly enlarged, three of them reaching an enormous size, one being 5½ ctm. in length and 3 ctm. in thickness. Without question the abscess cavity was a gangrenous infarction, and its close proximity to the bronchial glands at the root of the lung led to their septic condition. The spleen was about two and a half times its normal size and contained two large white infarctions 4 ctm. in diameter, together with fifteen or twenty small ones scarcely visible to the naked eye. The kidneys presented the lesions of a moderate amount of chronic diffuse nephritis. Numerous small infarctions were scattered throughout the cortex of both kidneys. The liver was normal. The mucous membrane of the intestines was very anæmic, but presented no pathological lesions. The brain was not examined.

Remarks.—A cursory examination of this case, Dr. Loomis said, would lead one to pronounce it acute ulcerative endocarditis. The high temperature, the petechial spots, the almost typical appearance of the aortic valves, the presence of micrococci, and the multiple infarctions in the various organs, all seemed to bear out this diagnosis. Upon careful analysis, however, the pathological changes were found to be more satisfactorily explained by considering that the micrococci found in the diseased valves were the result of a secondary infection, and not the primary cause of the condition. The speaker presented this case because he thought it represented a type of a large number of cases which are called by many acute ulcerative endocarditis, the chief cause of such a diagnosis being that micrococci are found in the vegetations on the valves. The specimens here presented were from the body of a man who had an old lesion of the aortic valves, as proven by the cardiac hypertrophy and dilatation. Dr. Loomis offered an explanation of the other lesions as follows: From some unknown cause, possibly from a lowered condition of the system, the quality of the blood became changed and fibrinous masses were deposited on the thickened and eroded aortic valves. These afterward broke off and passed to different organs (for white infarctions were found in the spleen and kidneys). In time one of these masses reached the lungs and plugged so large a vessel that necrosis of the pulmonary tissue took place. An abscess formed, and communicated most probably with a bronchus. Bacteria were present, together with the staphylococcus pyogenes aureus. These readily gained entrance to the blood-current, either directly or by the lymphatics, for the enormously enlarged bronchial glands showed that they were infected. The micrococci in the blood found in the already diseased valves a fit soil for their growth, so the vegetations became—not primarily, but secondarily—infected. The speaker had had, during the past year, the opportunity to make a number of autopsies on cases of so-called acute ulcerative endocarditis. Most of these cases, when studied from a pathological stand-point, were similar to the one just presented, and were not true types of acute ulcerative endocarditis, as that term is now understood.

Dr. Ely said that Dr. Loomis's conclusions agreed with those of several investigators in Germany and elsewhere. Dr. Prudden had also found in the course of some laboratory experiments that it was necessary to injure the valves, otherwise the bacteria would not lodge on them.

Interstitial Placentitis.—Dr. Charles N. Dowd presented some microscope-slides of a placenta coming away in a case of miscarriage. In the case of a mole which he had presented some time ago there was also interstitial placentitis. The specimens were interesting as suggesting that interstitial placentitis might be more common than was generally supposed, and might perhaps be a somewhat frequent cause of miscarriage. The woman in this instance was perfectly healthy and gave no symptoms of syphilis.

Tubercle Bacilli.—Dr. E. L. Traudeu, of Saranac Lake, presented by invitation some specimens and made the following remarks: "These tubes, marked No. 1 and No. 2, contain pure cultures of the tubercle bacillus on glycerine-agar, and are of interest as illustrating some possible variations in the growth of the microbe. No. 1 was obtained by myself at the laboratory of the College of Physicians, through the courtesy of Dr. Prudden, from the lung of a man who died of acute miliary tuberculosis, and is only the third generation direct from the human lung. No. 2 was brought by Dr. Currier from Europe, and is supposed to have originated from artificial tuberculosis in a guinea-pig, but the data on this point are somewhat uncertain; it has been under artificial cultivation for a long time. The differences in the growths are marked. No. 1 culture consists of dry scales growing very slowly in irregularly heaped and somewhat rounded masses, which can be raised entire on a needle from the subjacent agar without leaving a trace of their presence, these being all the usual characteristics of a pure culture of the tubercle bacillus. No. 2 shows small, white, creamy growths which take place much more rapidly than is the case with No. 1, the surface remaining tolerably even until the end of the fourth week of its stay on the thermostat, when it begins to crumple up and present very soon high ridge-like pleats, more especially toward the centre; these cultures are neither dry nor scaly, but are of the consistency of thick cream and adhere pretty closely to the subjacent culture medium. No. 1 grows abundantly on potato; No. 2 but very slightly, if at all. The lesions resulting from the inoculation of both types of growth in animals vary perceptibly, those produced by No. 1 becoming more rapidly generalized, and caseation occurring at an earlier date than when No. 2 is injected. The variations referred to appear to be quite constant, for they are still to be found after the microbes have been passed through a living animal, the plants made from the resulting lesions showing each type to have retained its own peculiarities.

"Up to the present time no variations in the mode of growth of the tubercle bacillus have been recorded. Whether the deviation shown by No. 2 culture and the apparent diminution in its virulence are due to long cultivation and to its attendant artificial conditions of existence is difficult to determine, though similar deviations from the normal have already been noted under similar conditions in several other pathogenic bacteria, and notably in Loffler's diphtheria bacillus. One passage through a living animal does not, however, efface the peculiarities. The morphological appearance of both these microbes under the microscope, the tenacity with which both retain the aniline dyes in the presence of nitric acid, and the approximate similarity of their pathogenic properties (inoculations made with either resulting in nodules identical with those found in tuberculosis) would seem to preclude the possibility of No. 2 being anything but a variation of the tubercle bacillus, especially when we remember that other bacteria (of which anthrax is perhaps the best example) have a wide range of deviation from the normal, not only as to their mode of growth, but as to their morphological appearance and pathogenic properties as well. Indeed it is upon these variations that the principle of successful vaccination in anthrax rests, and this lends an additional interest to the departure from the normal type which these cultures demonstrate."

Culture of the Tubercle Bacillus in a Fluid Medium.—"I also show you here several flasks containing a pure culture of the tubercle bacillus in a liquid medium. As far as I know, the culture of the tubercle bacillus in liquids has never been described, at least not in this country. The growth always takes place at the bottom of the vessel, if the liquid is at rest, in a mucus-like film, much resembling

vesical mucus in urine. After a stay of six weeks in the thermostat this film has become a dense yellowish mass of the same consistency and appearance as bronchial mucus; indeed, you will notice that, curiously enough, these cultures resemble nothing so much as a large lump of phthisical sputum lying on the bottom of the jar. Under the microscope the appearance of the bacilli does not differ materially from that of those grown on solid media."

Lungs in Artificial Tuberculosis.—Dr. Trudeau then showed two sets of lungs taken from rabbits inocu lated in the rim of the ear with a pure culture of the tubercle bacillus, and killed two and three and a half months respectively after the inoculation. They both presented the same lesions, but at different stages, the lesions being almost identical with those of acute miliary tuberculosis. They were both literally riddled with tubercular nodules, and large caseating foci were pretty evenly distributed on the pleural surface. These large caseous masses may have been produced at the spots where small lumps of culture have become lodged. The cultures made use of for these inoculations had been grown on potatoes.

Nature's Effort at Repair.—The speaker then presented a third set of lungs, with a drawing which illustrated most strikingly nature's conservative efforts as displayed in artificial tuberculosis. "These organs were removed from a rabbit ten weeks after inoculation of a pure culture of the tubercle bacillus directly into the right pleura and lung. The animal was kept out of doors and under excellent hygienic conditions. No microscopical tubercles are seen in this case to stud the lung and pleura, but several large, fibrous-looking tumors, adherent to the visceral pleura, are visible at the point of injection and at various other places on the surface of the lung and pericardium. These gigantic nodules are seen to consist, on section, of a thick fibrous capsule containing a mass of caseous material swarming with bacilli. The drawing was taken by Dr. Prudden, from the microscopical appearance presented on section of a similar nodule to those attached to the lung under discussion, and shows the encapsulated bacilli in the centre of a very thick fibrous capsule which ends in a narrow pedicle attached to the pleural surface. The bacilli swarm in the centre, diminish in numbers as the capsule is approached, and not a single one is to be seen in the fibrous tissue of which the latter is composed. What would have been the subsequent fate of these microbes thus imprisoned can only be a matter of conjecture, but it does not seem unlikely that either they would ultimately have been obliterated by the steady contraction of the fibrous tissue surrounding them, or that they might have escaped from their mechanical limitations by ulceration, and thus endangered the integrity of the surrounding tissues and the life of the animal. No doubt secondary tuberculosis and relapses in chronic phthisis have frequently a mechanism very similar to that which these nodules illustrate. I have succeeded in obtaining pure cultures of the bacillus, a year after inoculation, from similar nodules taken from the same animal who furnished the specimen for this drawing, and who was apparently in good health and presented otherwise sound organs when killed."

Dr. Prudden asked how early Dr. Trudeau had observed caseatin to occur in artificial tuberculosis.

Dr. Trudeau answered that he had seen it at the end of from the fifth to the eighth week, but if large masses of bacilli were injected, it might appear much earlier at the site of injection, but not in distant lesions.

Chronic Alcoholism in a Boy of Thirteen Years.—Dr. H. M. Biggs presented a specimen of advanced cirrhosis of the liver, taken from the body of a boy, thirteen years of age, in whom were found all the other lesions of chronic alcoholism. When the child was two years old he had an attack of bronchitis, for which the physician prescribed whiskey. He seemed to be fond of it, and his parents allowed him to gratify his taste whenever he desired, giving him money for the purpose. He used to drink about an ounce and a half six or eight times a day. The day of his death he purchased a larger quantity than usual, and drank it all at once. He was found some hours after in a semicomatose condition, from which he never rallied. At the autopsy the liver was found to be markedly cirrhotic, and all the other lesions of chronic alcoholism were present in advanced degree.

Perforation of the Trachea.—A second specimen presented was one removed from a patient who had died in Charity Hospital. He was admitted suffering apparentl from anæmia with some bronchitis. He gradually failed and finally developed a dyspnœa which was continuous but marked by paroxysmal exacerbations. There were râles to be heard in both lungs. The patient died in one of these paroxysmal attacks of dyspnœa. At the autopsy gummy tumors were found in the liver, and the bronchial and tracheal glands were very much enlarged. The trachea at its point of bifurcation was compressed, and there was a point of suppuration in one of the cheesy glands which had resulted in perforation of the trachea just at its bifurcation. The dyspnœa was probably due to the bronchitis and compression of the trachea, while the paroxysmal exacerbations were the result of pressure on the laryngeal nerve.

Carcinoma of the Œsophagus.—The third specimen was one of very extensive cancerous disease of the œsophagus, with secondary involvement of the trachea. There were also secondary nodules scattered throughout the body. Seven or eight weeks before the patient's admission to the hospital he had had some difficulty in swallowing which increased rapidly, and for about ten days before death he was unable to swallow any food at all, being nourished by enemata. The liver increased very perceptibly in size during the patient's stay in the hospital. The point of special interest in the case was the rapidity with which the disease must have progressed, since there had been no symptoms of œsophageal trouble until a short time before the patient's admission to the hospital, at which time the carcinoma was already far advanced.

The Society then went into executive session.

Correspondence.

THE TREATMENT OF THE INSANE IN THE GENERAL HOSPITALS.

To the Editor of the Medical Record.

Sir: In your issues of June 28th and July 19th I read with much interest a discussion on the "Treatment of the Insane in General Hospitals," conducted by Drs. W. P. Spratling, of Morris Plains Asylum, and Dr. Frederick Peterson, of New York. I am glad to see a discussion of this kind take place in such a journal as the Medical Record, because it will be read by a very large number of general practitioners who give little or no consideration to the subject of insanity. It is an encouraging sign of the times that very much more discussion of insanity is to be noted in general medical journals now than in times past.

It is unquestionably the duty of every physician in the country to become acquainted with this subject. Any physician is liable to be called upon at any time to treat a case of insanity, and to advise the friends of a patient as to the proper steps necessary to admit the patient to an asylum. Except in the large cities there are no specialists to whom the practitioner can transfer his patient. He must himself examine the patient and make out the certificate of insanity (together with a colleague usually).

Aside from this practical aspect of the question, and that of the immense sums of money annually expended by each State for the support of the insane, there are social questions of momentous importance connected with the subject. It is not the asylum officer or the lunacy board alone that we must look to to inaugurate steps

looking to the prevention of insanity. It can only be done by an awakened and general interest in the profession at large in this great social problem. Is it not a great social outrage, as well as a menace to the mental health of the whole land, that husbands can take their wives, and wives their husbands, home from asylums during a short lucid interval of the patient, and engage in the relation of husband and wife? Yet there are many children born from such a union.

To return to the subject which has engaged the attention of Drs. Spratling and Peterson. The latter says: "It is not precisely clear to me why the character of a general hospital should be changed by the admission of patients suffering from functional disorders of the brain, some of which we call insanity." To me there is just as much reason for separating certain patients suffering from functional (?) disease of the brain as there is for separating certain cases of fever. I think Dr. Peterson would not advocate the admission of cases of typhoid, typhus, variola, and malaria into the same hospital simply because they were all cases of fever. I can readily understand how certain forms of insanity, *e.g.*, melancholia attonita and simplex, stuporous insanity, etc., might be treated in the wards of a general hospital; but how cases with great excitement and violence, such as acute mania, melancholia agitatta, etc., could be placed there I cannot imagine. Dr. Peterson has cited a number of general hospitals where the insane are received and treated, but he has not made clear whether they are treated there continuously until cured, or only a short time and then transferred to an asylum. In the case of Bellevue I infer the latter practice obtains. Salpetrière and Bicêtre, however, retain their patients permanently, much as general asylums for the insane do. But at Salpetrière there is a separate building for the insane; in fact, it is simply an insane asylum which belongs to a hospital plant. In fact it is very similar to the insane department of the Philadelphia Hospital, which is a department of the general hospital, supervised by the same chief resident physician and managed by the same hospital board. This department of the hospital is, like all others, under a regular staff of visiting physicians, just like the surgical, medical, and obstetrical departments; moreover, the material is available for instructing medical students. But the building for the insane department is somewhat apart from the other buildings, and is, in fact, conducted much like other insane asylums.

The Massachusetts General and the Pennsylvania Hospitals each have departments for the insane. In both cases the buildings are removed some distance from the general hospitals to which they belong, and in both cases are distinctly known as insane asylums—the one by the name of McLean's, the other as Kirkbride's.

The fact must not be lost sight of that as a matter of fact the insane were formerly treated in general hospitals, and that for certain reasons they were removed subsequently to hospitals specially built for them. I need only mention Kirkbride's as an outcome of the Pennsylvania Hospital.

So I believe that while it is desirable to treat insane patients in general hospitals, separate buildings will be required if all cases are to be taken in. But if this plan is to be anything more than a name, the department for the insane ought to be in close touch with the remainder of the hospital—not so widely separated as to constitute a distinct plant practically.

Certain forms of acute insanity, however, could be very advantageously treated in the ordinary general hospital, and these hospitals ought to be willing to receive them.

This plan would present one very desirable feature, viz., the patient and his friends would be spared the opprobrium which attaches to residence as a patient in an asylum. It is an incontrovertible fact that a sense of shame and family disgrace is felt by the patient, his friends, and the public generally at the thought of being a patient in an insane asylum. Dr. Spratling's suggestion, that the word "hospital" be substituted for "asylum," will not correct this sense of pseudo-pride. The institution will still be known as the place where "crazy" people are kept.

The chronic cases of insanity, however, are much better off in the ordinary asylum. It must be remembered that the asylums have a number of necessary equipments for the amusement and employment of patients, which are expensive, such as workshops, grounds, farm, etc., affording opportunities for work; chapels, amusement hails, games, etc., affording edification and amusement. This equipment for a general hospital would be too expensive, as these hospitals are usually within city limits where prices for land are high.

THEODORE DILLER, M.D.

ST. LOUIS, July 24, 1890.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 3 to August 6, 1890.

KIMBALL, JAMES P., Major and Surgeon. By direction of the Secretary of War, the ordinary leave of absence granted in S. O. 152, July 1, 1890, from this office, is changed to leave of absence on surgeon's certificate of disability, with permission to leave the Division of the Missouri. Par. 7, S. O. 182, A. G. O., August 6, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 9, 1890.

WALES, P. S., Medical Director. Ordered in charge of the Museum of Hygiene, Washington, D. C

BRIGHT, GEORGE A., Surgeon. Ordered to the Constellation.

MACKIE, B. S., Surgeon. Detached from the Constellation and ordered to the Naval Hospital, Philadelphia, Pa., for medical treatment.

DERR, E. Z., Surgeon. Ordered to the Minnesota.

WAGGENER, J. R., Surgeon. Detached from the Minnesota and ordered to the Kearsarge.

MOORE, A. M., Surgeon. Detached from the Kearsarge and granted three months' sick leave.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 9, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	33	8
Scarlet fever	31	4
Cerebro-spinal meningitis	3	2
Measles	147	10
Diphtheria	42	12
Small-pox	0	0
Varicella	0	0
Pertussis	3	13

The Eiffel Tower to be Utilized.—It is stated that advantage is to be taken of the elevation of the Eiffel Tower to erect a manometric tube to contain mercury, so that at the bottom a pressure would be obtained equal to 400 atmospheres (roughly speaking, about 6,000 pounds, or two and a half tons to the square inch). M. Cailletet proposes to utilize this enormous pressure in his investigations concerning the liquefaction of gases.

A Remarkable Accident.—A man employed in the chlorate of potash department of Messrs. Muspratt's works, at Flint, Wales, was entering the premises when he struck a light against his trousers. The wearing apparel was so impregnated with chlorate dust that it ignited instantaneously, and he was immediately enveloped in a mass of flame. A fellow-workman promptly threw him into a pool of water, but when extricated it was found that he had been so fearfully burnt that no hopes are entertained of saving his life.

Medical Clubs not a Success.—A fatal Nemesis seems to hang over clubs which are promoted for and by the medical profession. Only recently we had an excellent example of this baleful tendency in London. Parsons and lawyers and the military we may say, with all due respect to those honorable callings, eat, drink, and are merry in these places of light, peace, and refreshment. To us, as doctors alone, clubland is that promised portion flowing with milk and honey which we are forbidden to enter and enjoy. The latest venture in this direction is a club entitled "The Aberdeen University Club," the creation of which it is needless to specify. But though situated in Union Street of the Granite City, members of any University are eligible for membership. Indeed, according to the prospectus, everybody and anybody may enjoy the privileges of membership save only persons attending college classes for the purpose of study. This boycott of the students throws a curious side-light upon the relations between teacher and taught in Aberdeen.—*Hospital Gazette.*

The Jacksonian Prize for the year 1889 has been awarded to Mr. Walter George Spencer, London, for his essay on "The Pathology, Diagnosis, and Treatment of Intra-Cranial Abscess and Tumor." The subject for the year 1891 is "The Pathology and Treatment of Diseases of the Knee-Joint."

Child-Wives in India.—In a pamphlet recently published by a native Indian author, Behramji Malabari, he invites Englishwomen to realize, if they can, the meaning of such expressions as "infant marriage," "baby-wife," "girl-mother," "virgin widow." If a "wife" becomes a "widow" even while she is still an infant, a widow she must remain all her days. The most ill-fated of these child wives are, of course, those who become wives not merely in law, but in fact, at ages varying from ten to twelve. "Girls of twelve and thirteen," writes Mr. Malabari, "have to bear the burdens of wifehood and motherhood," and he adds, that "not a few of these married martyrs succumb to the shock of the first child-birth." This hideous practice of child-marriage explains most, if not all, of the poverty and the misery—the physical and moral degradation—to be seen in hundreds of thousands of native Indian families. One of the worst forms of girl-marriage is known as "marrying girls to the gods," which practically means slavery of body and soul to the priests, great numbers of whom live upon the immorality of their girl-wives. This dreadful custom of child-marriage is one which the British Legislature, that had the courage to abolish suttee, has been afraid to meddle with. It was universal. To uproot it would have seemed like uprooting native society. But the custom is doomed, nevertheless. The condemnation of child-marriage is coming from the people themselves. Its disappearance will not be the work of a day. Mr. Malabari's own countrymen, the Parsees of Bombay, have for years been laboring in the good cause with zeal and intelligence. The educated and intelligent natives of Madras are petitioning for fixing the minimum age of girl-marriage at fourteen years.

London's Water-Supply to be Improved.—The *London Times* says that: "It would be a great security for the health of London if it were practicable to abandon the Thames and the Lea as sources of supply. Both rivers contain an enormous amount of sewage, especially in times of flood, when the contents of foul ditches and of filth receptacles of all kinds, as well as the crude sewage from low-lying sewage farms, are washed into the stream. It must be owned that, considering the amount of pollution which the water receives, it is wonderful that the death-rate of London is so low, and especially that the cases of those diseases which are especially associated with bad water, continue to diminish. But it is impossible to avoid some apprehension as to what might happen if there were, for example, a considerable epidemic of cholera or of enteric fever at Staines. Some years ago there was a sudden outbreak of the latter disease throughout the Caterham Valley, and between three and four hundred cases occurred nearly simultaneously. Dr. Thorne, one of the staff of the Local Government Board, investigated the outbreak, and showed quite clearly and conclusively that it was attributable to a well at the water-works being fouled by a single workman who had a very slight attack of typhoid fever. That water, though it would have been pronounced of the highest quality if judged by any tests that analysis could supply, spread disease through an extensive district, and if there were not a single case, but an epidemic, at Staines, where the sewage runs direct into the river, a rather risky experiment would be tried upon pretty nearly three millions of people as to the effect of filtration in removing disease-germs so minute as to be undistinguishable by the microscope. Even if it cannot be definitely proved that the health of London is endangered by the present supply, it is a nasty idea that Londoners are now drinking the sewage of a huge population. The only cure is the establishment of a single water authority which could resort to other sources.

Kraurosis Vulvæ.—This term was first applied by Breisky to general atrophy of the external genitals in the female, especially when the atrophy occurs prematurely. It is now known to be more common than was at first supposed. Pruritus is usually present, and the patient is apt to get anxious through acquiring the belief, always repugnant to the female mind, that she is "not formed like other women." Dr. Ohmann-Dumesnil has written on kraurosis vulvæ in the *Monatsheft. f. prakt. Dermatologie.* He has collected thirty-five cases, recorded by Breisky, Janovsky, Heitzmann, and himself. The hard patches of epidermis were frequently scraped, and the parts were stimulated by caustic or astringent solutions. Tannin, or a one per cent. solution of salicylic acid appeared to be safe and efficacious. Constitutional treatment was always important, especially in nervous subjects, or where neuralgia in the anterior crural or in other nerves was present.

Professional Writing in Lay Papers.—A very regrettable tendency has manifested itself for some years past on the part of medical men, more or less known to the public, to cultivate notoriety—for it can hardly be called fame—by contributing popular articles on medical topics to the lay reviews. It is probably useless to protest against a practice which has for its object less the enlightenment of the public on any particular subject, than the desire to associate one's name with the treatment thereof. It is an insidious form of advertising which escapes censure at the hands of the medical authorities, but cannot raise the writer in the estimation of his fellows or of the intelligent public. Authors, however, probably care little for the latter, preferring the increment of income likely to accrue from the public which cannot rightly be described as intelligent. It is, nevertheless, within the power of medical men as a body to make the "irrepressibles" understand that they are violating the spirit if not the letter of the regulations.—*Hospital Gazette.*

The Maine Medical Association held its annual meeting in Portland, on June 10th, 11th, and 12th. The following officers were elected: *President*, Dr. S. B. Hunter, of Machias; *First Vice-President*, Dr. B. B. Foster, of Portland; *Second Vice-President*, Dr. F. L. Dixon, of

Lewiston; *Corresponding Secretary*, Dr. O. W. Stone, of Camden.

The Delaware State Medical Society began its second century, on June 13th, at its 101st annual meeting in Wilmington. The election of officers resulted in the choice of the following: *President*, Dr. Joshua A. Ellegood, of Laurel, Sussex County; *Vice-President*, Dr. Ezekiel Cooper, of Camden, Kent County; *Secretary*, Dr. W. C. Pierce, of Wilmington; *Treasurer*, Dr. Joseph H. Chandler, of Centreville.

The Pioscope.—The new instrument, called the pioscope, consists of a glass dial about two inches in diameter, with a white centre circle, and six different colors radiating from the circumference of this circle to the circumference of the dial. These colors are marked "less fat," "very fat," "cream," "very good," and "poor." A drop of milk is placed under the white centre, and by some chemical process its color is changed corresponding with one of the five shades, thereby indicating its quality. In some recent experiments with the pioscope, milk, which the lactometer registered eighty per cent., was of the shade of pure, but with ten per cent. of water added it registered very poor, that is, less solids or cream. The highest test went up to a hundred and ten, and the lowest down to sixty-five, according to the lactometer. Dr. Le Tourneux is of the opinion that the best test was by means of the microscope, although the pioscope experiments proved quite satisfactory.

Lunatics in China.—In China acts of homicide or murder committed by lunatics are rare. In that country the iron hand of justice works inexorably, and the plea of insanity is not admitted as a mitigation of punishment. A laborer was recently sentenced to death in the usual manner appointed for the crime of parricide, while the relatives, who had neglected to inform the district authorities that the man was insane, were each sentenced to receive a hundred blows with a stick. According to Western ideas this punishment of lunatics is cruel, but there can be little doubt that the severity adds largely to the protection of the public, as is evidenced by the rarity of crime by lunatics in China. There are few lunatics so mad as to be altogether deficient of self-control, and the knowledge possessed by all Chinese that, whether mad or sane, they will be punished for any crimes they may commit, acts upon all alike as a deterrent. In England they have gone to the other extreme. The slightest evidence showing that a man or woman's mind is unhinged upon certain points is considered sufficient to shield them from the consequences of any crime they may commit, even when that crime is perpetrated with an amount of cunning and forethought sufficient to show, beyond doubt, that the person committing it was perfectly aware of wrong-doing, and was sane enough to adopt every precaution against discovery.

Urobilinuria.—According to Hayem this condition, when habitual, persistent, and varying in degree, has a clear pathological significance, and is a valuable indication in forming an early diagnosis in diseases of the liver. He regards urobilin as the characteristic coloring matter of hepatic incompetency. He has observed urobilinuria in the following cases: 1. At the beginning of alcoholic cirrhosis. 2. In cardiac patients in whom the liver is not enlarged, it may be an indication of incipient hepatic lesions. 3. In numerous acute affections when observed in alcoholic patients, such as typhoid fever. When a large proportiou of urobilin is detected in this affection, reserve should be made with regard to the prognosis. 4. In newly delivered and nursing women. 5. In most forms of cachexia. Urobilin has a feeble coloring power, and is found in pale urine. The deep coloring of urine observed in certain affections (fever with perspiration, lassitude, overfatigue) is usually due to urochrome.

Russian Punishment for Adulteration.—Severe measures have recently been taken by the Russian Government against adulteration, and the sale of injurious substances as food. Persons convicted of these offences will be liable to a fine of 300 roubles, or to imprisonment for three months. For a second offence these penalties will be doubled, and a third conviction will entail the loss of civil and political rights. Mr. Bright's doctrine of *caveat emptor* evidently finds no favor in the eyes of the Czar. Our own "free and enlightened" country might with advantage take a hint from such truly benevolent despotism.—*The Lancet.*

The Fields of Vision in Hypnotism.—In a paper which appeared in the *Neurologisches Centralblatt*, Moravosik records the curious case of a hysterical woman, aged twenty-three, whose fields of vision could, during the waking condition, be considerably enlarged by various peripheral stimuli, such as the application of warmth to the skin, or a tuning-fork to the ear; and, during the hypnotic state, a sad suggestion narrowed the field, and a cheerful snggestion considerably enlarged it.

Cystic Degeneration of the Brain.—Pick has made a careful study of eight cases in which multiple cysts were found in the brain. In his account of their character, position, and varieties, and also in his opinion that they are due to dilatation of the perivascular lymph-spaces, he confirms the views of previous authors; and he considers that the obstruction causing the dilatation of the spaces is due to some congenital mischief.

Morbid Desire for Operations.—Professor Leyden, of Berlin, not long since, showed to his class at the Charité Hospital a case belonging to that category of hysterical women who have a morbid desire to have operations of the most painful character performed without any anæsthetics being used. They do not experience pain; on the contrary, that which produces all the accompaniment of pain in others produces in them pleasure. The patient shown by the professor to the class was a young lady, who had, during a hysterical paroxysm, fractured her jaw and injured the facial artery. The injury was a serious one; the facial and the carotid arteries had to be ligatured, and part of the lower jaw removed; but the patient insisted in having the operations performed without any anæsthetic, and afterward informed the operator that she had experienced great pleasure from the operation.—*London Medical Recorder.*

A Novel Operation for Cataract.—"Drs. V—— and M—— lately performed an operation on Mrs. D. S——, removing the left eye, which was made necessary by a chronic cataract and iritis, which had formed on the eye, and would in a short time have caused the other eye to become blind. The operation was entirely successful, and the patient is resting easy, and has every possible chance for a speedy recovery."

The preceding item, taken from a daily paper published in Ohio, may be of interest to eye surgeons generally, as it gives a method of operating for the cure of cataract by which a percentage of one hundred uniform results may be obtained, both as to the amount of sight and the certainty of no return of the cataract, either acute or chronic, in that eye, and in the event of an error of prognosis by a surgeon, and a sympathetic cataract should "form" and cause the other eye to go blind, the same operation would insure an equally successful result. If this new departure in the treatment of cataract will be acceptable to the blind from cataract, it is the coming operation. The next thing will be the cure of squint by decapitation.

McGill University, Montreal.—Dr. G. E. Fenwick has resigned the chair of surgery at the McGill University, owing to impaired health. Dr. T. G. Roddick, one of the editors of the *Montreal Medical Journal*, will be Dr. Fenwick's successor.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 8. **Whole No. 1033.** NEW YORK, AUGUST 23, 1890. **$5.00 Per Annum.** **Single Copies, 10c.**

Original Articles.

STRICTURE OF THE URETHRA IN WOMEN.[1]

BY ELY VAN DE WARKER, M.D.,

SYRACUSE, N. Y.,

FELLOW AMERICAN GYNECOLOGICAL SOCIETY, ETC.

IN this paper I limit the term stricture of the urethra to organic contractions in the lumen of the canal incidental to her sex, or the result of destructive or malignant disease, and not caused by traumatism. In a surgical sense it is the same condition that we define by this term in the male. I find it necessary to thus limit the disease because the affection is supposed to be so rarely found in women that all manner of causes have to be enumerated in order to explain its presence. In the two most recent and elaborate monographs upon the subject, that by Fissiaux[2] and by Herman,[3] all manner of accidental conditions are invoked to explain the condition. When the causes of urethral stricture in women are reduced to two, specific urethritis and traumatism principally (Fissiaux), it will be clear to anyone who studies it independently and free from the unfortunate bias of the authors, that this method simply perpetuates the prevailing error concerning it.

There are certain reasons why organic contractions of the anterior urethra in woman should be expected as the outcome of her functional life. If we examine the external genitals in women of various ages, some of the most marked changes will be presented by the picture of the urinary meatus and the urethral prominence. What in the virgin is small and compact, becomes enlarged in the middle-aged married woman, so that it projects forward between the nymphæ and forms a large, rounded mass bulging downward into the vestibule. The urinary fissure has become irregular, with overlying flaps of the external mucous membrane, unilobed, bilobed, or trilobed, in every variety of form. These changes may, and do, exist without any functional deviation from the normal.

These alterations are evolutionary in character, and are shared in by the other external genitalia. The gland of the clitoris has become greatly enlarged over the virgin form and its prepuce elongated; the nymphæ have increased many times in breadth and thickness, and project beyond the commissure of the pudendum, and the myrtiform bodies occlude the vestibule. That the functional activity which is the source of this evolution may easily pass beyond the normal, is proven by the frequency that stricture of the urethra, or condyloma, angioma, caruncle, and irritations are found.

In the sexual act the urinary meatus and prominence are as much exposed to friction and contact as the urethral opening in the male. These organs in one sex have no exposure to morbid causes that are not equally shared by the other, aside from gestation and pregnancy, which, speaking mathematically, is a plus condition as against woman. The practical outcome of this is that the woman who has not, at some period of active functional life, suffered from urinary distress, is very rarely met with; and, further, I will boldly assert, what every man who faithfully follows my method of urethral exploration will confirm, that urethral strictures, or contractions sufficient to cause symptoms, are as frequently found in women as in men. I express this opinion in no spirit of arrogance or undue self-assertion, but I shall expect every man who offers an opinion to the contrary, other than what may be said hastily in debate, to do so only after he has applied to the study of this subject the modern and approved methods of urethral exploration. He must abandon his authorities and their text-books, which have nourished a most absurd error, and study this matter for himself from the general surgery stand-point. In the event that there may be some among you who have not examined the literature of the subject, but who may wish to know what gynecological authors have to say about it, I can well afford to give the brief space that this requires.

Thomas, in his fifth edition, does not mention the subject. Emmet says that it is rare except as the result of violence. Among older English writers Churchill says: "My own experience does not qualify me to speak as to the frequency of organic stricture of the female; it cannot be very common, or I should have met with it. But I have met with two cases which I suppose to be spasmodic stricture;" and which cases he relates, and which were evidently cases of hysterical retention. West, McClintock, Sir C. M. Clark, Barnes, Baker Brown, Tait, do not mention the subject. Graily Hewitt says it is rare compared to the other sex, and dismisses it in six lines. The later French authors do not give it any mention, so far as I have examined. The elaborate and painstaking German authors ignore the matter. Even Winckel, in a special treatise on the Urinary Organs of Women, in the "Handbuch der Frauen-Krankheiten," gives it no consideration worthy of the name. Coming to more modern times in English literature, we find Hart and Barbour, Mundé, Goodell, Brown, pay it no attention. In the ambitious monograph of Herman, already referred to, and which aims to be scientific, the matter is very inadequately treated, and in a manner which proves that the author has neglected to apply to his investigations the methods of modern urethral surgery; while the paper of Fissiaux, so far as it advances our knowledge of the subject, might as well have been written a generation past. In the "American System of Gynecology," our own Baker starts out with the remarkable statement that stricture of sufficient degree to give rise to urinary symptoms is rarely met with. It is very evident from this that I have a fair field all to myself, as negative evidence never yet proved anything. The mysterious part of the matter is how such a mass of negative evidence was ever able to group itself about a subject so easy of demonstration as this. The mystery is cleared up when we come to examine Skene's book on the "Diseases of the Bladder and Urethra in Women."

Dr. Skene gives more importance to the lesion than any other systematic writer, by admitting that it occurs often enough to demand attention. "The form of stricture that will most frequently come under your consideration," he says, "will be a contraction of the meatus urinarius, produced in many cases by the too liberal use of caustics in the treatment of abnormal growths at the lower end of the urethra, or from vulvitis." It is in relation to the method of examination directed by Skene, who simply follows in the footsteps of his predecessors in a sort of traditional way, wherein lies the error. He directs that the passage be explored with a sound, using

[1] Read before the Section on Obstetrics and Gynecology, American Medical Association, at Nashville, May 22, 1890.

[2] Annales de Gynécologie, January and March, 1879.

[3] Transactions of the London Obstetrical Society, 1887, p. 27.

one so large that it will not pass the stricture, thus locating it, and then by using a sound that will pass through it the extent of the obstruction may be known. If a surgeon writing upon male stricture were to direct such a method of exploring the passage, there would be very few strictures of large calibre, as Otis calls them, that we would ever know much about.

It is by methods such as just described that the period of error has been prolonged. Now, there was a time within the memory of many of us when it may have been said that, in an exact and scientific way, we knew very little about stricture of the male urethra; and yet, concerning this, careful instruction had been given for generations. There came, however, with the use of instruments of precision, a period of more exact examination, which not only gave a more perfect, but a far wider, range of knowledge. In this way an abnormal state was all but discovered and its outcome given its due value, for previous to this period strictures of large calibre were, if known, given no practical importance. Previous to this period the general surgeon gave about the same instruction concerning exploration of the male urethra that Dr. Skene has given for that of the female. It cannot be disputed that, so far as stricture in women is known and treated, it stands to-day where the surgery of the male urethra did a generation ago. I date the knowledge of strictures in the male, of large and small calibre, their number, location, and extent, their consistency and dilatability, together with the calibre of the passage yet in a normal condition, to the invention and general use of the exploratory bulbs and urethrometer. Previously they were simply able to say that a urethra was strictured provided the contraction was small enough.

If we trust in urethral exploration, in women, to the sound, we simply learn that we have to deal with a narrowed passage, and we overlook strictures of large calibre entirely; whereas, if we explore with the bulbs we learn not only all that the sound can reveal, but also the extent, number, and location of the constricted points, their firmness and dilatability, and the differential diameter of each.

Some attention has been given to the question, What is the normal size, or lumen, of the female urethra? I do not understand how a solution of this question can throw any more light upon its stricture than a knowledge of the average diameter of the vagina would aid us to an understanding of atresia of that passage. The question is, not the diameter of the passage, but, is it free from disease; are there no contracting bands or inflammatory deposits that diminish its size, be they large or small? In the male urethra Otis has tried to make an average of this kind of practical importance as a guide to the depth of an internal urethrotomy in a given size of the pendent organ, but I believe few surgeons cut according to Otis's table now. Those that I have seen do it generally incised more extensively than was necessary, especially at the meatus. The accessibility and exceeding dilatability of the female urethra precludes the necessity of internal urethrotomy, and there is even less need here than in the male to establish a law of average. It is interesting, and it may have its usefulness, to know something about the average normal. Dr. Herman, in the article referred to, makes an attempt in this direction.

Tabulation of Dr. Herman's Measurements.

Hegar's dilators.	Equivalent in English scale.	Equivalent in French scale.	Number of persons examined.
No. 7.....	12	22	55
" 8.....	14	25	11
" 9.....	17	29	21
" 10.....	18	30	15
" 11.....	Not given.	Unknown.	6
" 12..... ...	"	"	1

Dr. Herman employs an instrument that cannot be taken as a comparative standard like those made upon the French scale, which are not arbitrary numbers, but express millimetres in circumference. For this purpose he uses Hegar's dilators, which he describes as "cylindrical rods pointed like the small end of an egg," which must be conically pointed sounds. Even in the use of these imperfect instruments he used so much force that on several occasions he "produced slight lacerations of the mucous membrane."

The conclusion is that in most cases the healthy female urethra will admit a No. 17 catheter, and nearly all cases a No. 14. In the above table the equivalent in the English scale is approximated upon the American, and I assume that there is no material difference. It is very evident, I believe, that beginning in the above table with Hegar's dilator No. 9, the observer used a dilating degree of force, as the fact of bleeding mucous membranes proves. Had he used a urethrometer or the exploring bulbs, the error of using too much force would have been avoided and his measurements would have had scientific value. This author makes gonorrhœa a very frequent cause, a fact that was overlooked by Winckel. He also regards the urethro-vaginal cellular tissue the homologue of the prostate gland in the male, from the fact that in aged women this septum is thickened and indurated, and thus causes narrowing of the urethra. It is difficult to follow Dr. Herman to such a conclusion, and I believe that the majority of observers will dissent from such a comparison. If it were necessary to imagine such a homology, function and situation would suggest the vulvo-vaginal glands. I believe, on the contrary, that the urethral narrowing in aged women is due to the senile involution to be observed in all the genito-urinary apparatus of the sex.

In my own observations to test the calibre of the normal urethra, I noticed the liability to error from the extreme dilatability of the passage when in a healthy condition, an error more difficult to guard against in using the urethrometer than the bulbs. In the following table the measurements were made by the careful introduction of the bulbs, using no force that could put the tissues upon the stretch.

No. of cases.	French scale = millimetres in circumference at meatus.
20	23
18	24
24	25
9	26
18	27
16	28

This does not express the size of the urethra, but rather that of the meatus, at which point there is a slight narrowing. Beyond this point the measurements were taken by the urethrometer, and the increase in the calibre was represented by 1 to 3 mm.; but if the screw of the instrument was slowly turned, thus applying the dilating force gently, one or two divisions of the scale could be added to the above without any discomfort to the woman. For this reason measurements must always lack the exactness that insures scientific value, except for those made at the meatus. Bulbs larger than 29 F., I found, would not pass the meatus without dilating force, except in cases in which appearances indicated a morbid condition of the part. In my measurements every case in which blood followed the bulb or urethrometer was rejected as being in a morbid condition, or as having an excess of force used in the manipulation. There is not a case represented in my table that the measurement would exclude the idea of stricture, or contracting bands, that is, the stricture of large calibre. This at least has been my experience, but this morbid condition is indicated by urinary symptoms more or less constant, or recurring at long intervals.

Several of the writers who give the subject any attention at all appear to derive their standard of comparison from stricture in the male. To a certain extent no comparison is possible. Except as the result of traumatism, the

impervious urethra and exceedingly narrow stricture is not met with in women, but is often met with in men. In connection with an exceedingly crude method of examination, it is this standard of comparison which has so generally led gynecological writers astray on this subject. Further, a narrowing in men that will cause but a slight diminution in the current of urine, never retention, and but rarely dysuria, will produce all of these symptoms in women. I believe this to be the true distinction to be made between the sexes in the symptoms of stricture. Women are exposed to all the etiological conditions that men are, plus a few others incidental to their sex, but these in no way contribute to what may be regarded as sexual differences in symptoms. From whatever cause, retention, incontinence, dysuria and strangury are symptoms much more frequently met with in women than in men, and in consequence slighter pathological changes will cause more active disturbance in the former. If strictures of large calibre in men have the pathological importance that such an accurate observer as Dr. F. N. Otis assigns to them, strictures of a like character have more serious import in women. What Civiale, in 1850, says of male stricture, "that the slightest obstruction in the urethra is able to produce the gravest symptoms," is true with enhanced force in women.

It is not necessary to reason any further from analogy. There is an established method of practice that will bear out the truth of my argument. A long-established treatment of dysuria in women has been by forcible dilatation of the urethra, an operation usually made with the finger of the operator. I have so treated these cases of painful urination many times; sometimes with success, at other times with failure. It was difficult to explain the contradiction in results. I have now learned that when I have succeeded in curing my patient I had to deal with a stricture of large calibre—in other words, I had treated a stricture by what, in the surgery of the male urethra, is termed divulsion. Since I began habitually to examine the urethra with the exploring bulbs in all cases with urinary symptoms, I have never made the operation of forcible dilatation except I wished to examine the cavity of the bladder with the finger. In doing this operation in dysuria I have frequently felt the narrow constricting bands, but without really understanding their nature until I had studied the condition of the passage after the manner of Otis. It is impossible to detect strictures of this size with the sound, as resistance is at every point alike, and from the size of the sound that you are able to pass it does not appear that any stricture is possible. Free as was the opening of the urinary passage, the widely dilatable constricting bands were sufficient to keep up a constant fret of the mucous membrane. I have found these obstructions in urethras that would admit a 28 to 30 F. sound with but very little force, and followed by only a few drops of blood. In exploring, it is well to remember that it is always more easy, as well as less painful to the patient, to introduce a large sound than it is a large bulb. This constant condition of urethral irritation in this group of cases constitutes, I believe, a sexual trait in the different reaction of strictures of this character in the sexes. That which causes frequent and painful micturition in women, and greatly disposes to spasmodic retention, will, as a rule, produce an intractable catarrh in men when situated in the penile passage.

It is remarkable how sensitive the bulbs are in detecting and locating stricture of wide lumen. Sometimes the constrictions are arranged in groups, and a No. 24 or 27 F. bulb will slip along in a series of jerks that offer but little resistance to the hand; but more usually one or two obstructions are found from the middle to the outer half of the passage. The lumen of the normal female urethra is not the same throughout its length. It is contracted toward the meatus, expanded in the middle portion, and contracts again toward the bladder, as may be demonstrated by the urethrometer. One must not, therefore, allow error to occur from the introduction of a too large bulb, which would move with more freedom at one portion of the urethra than another. With one that moves with but little force, the sensation of meeting one of these obstructing bands is so characteristic that there is but little danger of error. They differ in one important particular from obstructions of the same diameter in the male. In women they occupy but a small space longitudinally of the passage, while in the male half an inch to an inch is sometimes involved. All the symptoms evoked by strictures of more contracted forms are observed in those I have been describing. I know of no differential symptoms by which to distinguish the different degrees of contraction. The gravity of the symptoms does not appear to depend upon the extent to which the lumen of the passage is encroached upon, but rather upon the degree of the irritation existing.

Symptoms of functional disturbance due to stricture have their periods of exacerbation and intermission, so that the patient will give a history of frequent and painful micturition, with intervals of relief of a duration of days, and even weeks. Oftentimes the patient rises in the morning in a comfortable condition, with a renewal of the urinary symptoms toward the latter part of the day, especially if she has been much upon her feet, the disturbance lasting well into the night. The power of control is sometimes impaired, the patient being obliged to promptly respond to the inclination, otherwise there will be an involuntary escape of urine.

The form of stricture that I have most frequently met with, and one that produces the most acute symptoms, is the annular stricture of the meatus. It is a firm ring situated at the verge of the opening, and ranges in calibre from 13 to 20 F. It offers quite a solid resistance to the exploring bulb, which has sometimes to be pressed against the ring for a moment before it yields, and what is even more characteristic, presents about an equal resistance to its withdrawal. Some are of large calibre. I have noted one of 23 F. in which the urinary symptoms were very urgent, and which totally disappeared on the passage of sounds with very slight dilating force. The resistance offered to the withdrawal of the bulbous sound, both in the annular stricture at the opening and in obstructions farther up the canal, is one of the most characteristic sensations to the touch presented by these delicate instruments. The treatment of these strictures at the meatus is quite painful, and cocaine ought to be used. In a very few instances I have divided the obstruction upward, but this plan gave no special advantage except in relieving the painful stretch at each passage of the sound.

Very small strictures near the meatus, but not involving the opening—the analogue of what we so frequently meet with in men—I believe are quite rare. In women such an obstruction nearly always involves the meatus. I recall one such case in which the meatus received with difficulty a No. 19 F. bulb, and a firmer contraction half-an inch beyond. The subject was sixty-two years of age, the mother of several children, and had suffered several years from difficult and painful micturition. In this case I divided the strictures, as dilatation was painful even under cocaine. From the thickened and inverted prepuce, the hypertrophied right nympha, with its hardened and corrugated surface, and the general pigmentation of both nymphæ I suspected long-continued masturbation. A long time after the patient confessed that such was the case. This was interesting, as the urethra of this woman presented about the same condition met with in men who have long been subject to this vice.

Persistent retention, due to the mechanical obstruction as a symptom, I have not often met with. I believe that I would better express myself to substitute retarded flow for retention. In one case in which a 16 F. bulb passed the meatus with difficulty, the flow of urine was very slow in starting, and the bladder was slowly emptied, with a small, reluctant stream. In this instance, before any ex-

ploration or stretching, the obstruction offered an opening not to exceed 12 F. to the flow of urine. This woman had had gonorrhœa about ten years previous to my treatment. If one looks for symptoms of mechanical obstruction in stricture of women, I fear that it would be very misleading. Therein lies one of the obstacles to the general recognition of this condition in women. As a sex, she is so continually subject to urethral and bladder symptoms, but without other indications of stricture, that the condition nearly always meets with some other explanation. What in man would inevitably lead to a urethral exploration, even on the part of a very ordinary surgeon, is never made in women, except in cases of exceptional severity.

Another condition sometimes met with at the meatus is what has been called eversion of the mucous membrane of the passage. It is very troublesome and difficult to cure. This is, in my opinion, simply a form of stricture. Cases so treated have made prompt recoveries. Its prototype in the male is the fusiform stricture of the meatus of Otis. This author states that it is rare in the male, and he applies the term congenital to it. In this sex the condition is not revealed except as the result of exploration. In women, however, it is not rare to meet with a rolling out of the mucous lining which presents at the meatus as a red irritable margin. When a full-size bulbous sound is introduced, the protruded mucous membrane is pushed before it, and the resistance to its introduction ceases when the bulb is pushed through the ring. On withdrawing the sound its point is caught by the ring of mucous membrane, which is pulled out to its full extent, thus offering considerable resistance to the withdrawal of the bulb.

The point which I wish to impress is, that this is essentially a stricture. Those of you who have treated the condition know how disposed it is to return even after the margin is pared or cauterized away. I believe that it is explained by the existence of an annular stricture at the meatus and a subsequent dilatation of the urethra behind it. Of course, I do not allege that this may not occur from dilatation of the urethra without stricture; but the diagnostic use of the bulbous explorers demonstrating the obstruction at the meatus puts the pathology beyond doubt. With or without excision of prolapsed mucous margin, permanent cure may be attained by gradual dilatation with the sounds. Two cases of this condition, both in middle-aged women, were cured by relieving the stricture at the meatus, with cure of severe urinary symptoms. In old women, in whom it is more frequently found in connection with annular stricture of the meatus, its cure is practically impossible without cure of the stricture.

I do not propose to take up your time with the detail of illustrative cases. The proof of the matter is so simple to everyone who will provide himself with a set of exploring bulbs, and habitually employ them in every case that presents with urinary symptoms, that I do not believe I can make my case stronger with the history of cases, as I urge all to test the accuracy of my statement. In the treatment of stricture the bulbs are of course not used. I make use of graduated steel sounds, the same that I used when in general surgical practice to treat male stricture. The action is twofold—to dilate gradually and to cause the absorption of the constricting exudate, and that latter end is not attained by sudden and forcible dilatation. The treatment, made two or three times a week, extends over a considerable length of time; but the relief given to the patient early in the treatment is very satisfactory. As dilatation of the urethra is no more important than the absorption caused by the passage of the sounds, it implies a more or less prolonged treatment.

The use of electricity as a treatment I have not had any experience with. Fissiaux states it has given good results at his hands, but I have found the use of graduated sounds so satisfactory that I have not been tempted into new ways. I hold that electrolyzing the sensitive female urethra is a very painful method, and that it will not give speedier or more permanent results than dilatation.

In conclusion I again urge the employment of the exploring bulbs in all cases of dysuria, with the conviction that those who will faithfully follow my methods, earnestly seeking for the truth, will find ample verification of what I claim concerning the frequency of stricture and the important part it plays in the disabilities of women.

GASTRO-COLOSTOMY.[1]

By W. M. POLK, M.D.,

NEW YORK.

On March 31st, this year, I admitted to my ward at Bellevue Hospital a female patient who gave the following history: She was forty-eight years of age, had come of healthy parentage, her birthplace being Ireland. She had given birth to eight children, having been married twenty years ago. Her health had always been excellent until eighteen months ago, when she began to suffer from dyspepsia, with occasional attacks of headache. The dyspepsia steadily increased, and about fourteen months ago began to be associated with vomiting. The vomiting was so great a relief to the symptoms of indigestion that at first she welcomed it, but as time progressed it became so constant as to be a daily occurrence and annoyance. The hospital records state that one year before admission the symptoms became much more aggravated, and since that date she has suffered constantly, having pyrosis, pain in the epigastrium, a most distressing sense of fulness and distention of the stomach after eating, more particularly if the food was solid. Vomiting after meals became now the rule. At first but little came up beyond the food or drink recently taken, but in time, especially of late, a chocolate-colored material has been ejected at the same time, and now it is so abundant as to deeply color all of the vomited matter. The bowels, in the main, have been constipated for the past eight or ten months; the most striking change in the patient's condition has been the progressive emaciation. At the outset of the illness her weight was two hundred pounds; at the time of admission to the Hospital it was a trifle over ninety pounds, showing a loss of about one hundred and ten pounds in about one year. Upon admission the emaciation was only too apparent; there was, of course, a great deal of general debility, but still the patient was able to walk about with comparative ease. She remained in the ward for two weeks before the operation, during which period her story concerning the symptoms and signs of her disease was fully verified. All of her organs were found to be free from disease, with the exception of the stomach. Her symptoms, and the vomited matter, clearly pointed to disease there, but additional evidence was found in the shape of a clearly defined tumor, about the size of a goose egg, situated in the region of the pylorus. The diagnosis of "carcinoma of the pylorus with obstruction" was made. The treatment instituted was as follows: The food was limited to peptonized milk, alternating with kumyss, and each day the stomach was washed out with plain water. The bowels were moved daily by a simple enema. Two days before the operation the stomach was washed out, first with Thiersch's solution, this followed at once by enough plain water to displace the solution. Aided by my associate, Dr. Barrows, and the house staff, I operated on April 16th, all the established rules of antisepsis and asepsis being rigidly followed. The time consumed was just one hour. The abdomen was opened by a four-inch incision between the ensiform cartilage and the umbilicus, following the linea alba. The tumor was readily found, and seen to be in the pylorus. It was fairly movable, resting just to the right of the spinal column. Lifting the omentum, the lower surface of the transverse colon was speedily reached; following the meso-colon to the spinal

[1] Read before the Practitioners' Society of New York, May 2, 1890.

column, the head of the jejunum at the crossing was at once recognized; following it downward some six inches, it was seized and brought out at the wound. Some six inches of gut were then drawn out of the abdominal cavity, care being taken to secure a loop free from traction. A section of the anterior and lower surface of the pyloric end of the stomach, in all about the size of a man's hand, was then drawn out. The entire mass was next shut off from the peritoneal cavity by specially prepared gauze. This was packed around the mass as a whole, inside the cavity, outside the cavity, and at the edges of the wounds. A packing was also made between the coil of intestine and stomach.

Following the suggestion of Weir, the intestine and stomach were then stitched, the one to the other, for a distance of about two inches, the line of stitches running along the gut about a third of an inch from the mesentery, and along the stomach about half an inch from the lowest line of the anterior surface. The loop of intestine was then emptied of its contents by pressure, a return being provided against by the pressure of copper-wire clamps covered with rubber tubing, which had been devised by Dr. Barrows. A two-inch incision opposite the mesenteric attachment was then made, and the gut washed out with Thiersch's solution. There was nothing in it besides mucus. An Abbe catgut ring (ellipse), measuring three inches in its longest diameter, armed with eight sutures, three on a side and one at each end, was then placed in position inside the gut, and the sutures passed through the gut-wall about half an inch from the incision, ends and sides. A similar cut was next made in the stomach along a line in direct apposition with the incision in the gut, and about four inches from the pylorus. A duplicate Abbe ring was then introduced and secured as before. The ring sutures were then secured and tied, bringing the openings in the two viscera into perfect apposition. Commencing then at the cardiac end of the line of stitching originally made between the intestine and stomach, this line was carried around outside the rings to within half an inch of the pyloric end of the original stitch-line. There I had to stop because of the difficulty experienced in following the proper line for the outside stitches. It had been thrown too far under to be easily reached. I therefore stopped at the point stated, trusting to the action of the rings alone at that point. To recapitulate: I succeeded in covering in the line of apposition created by the rings throughout the entire circumference some half an inch upon the pyloric aspect. The gauze packing, which had proved entirely efficient, was now removed. All the parts were carefully cleansed, and the viscera replaced in the peritoneal cavity. Care was taken to place the region of anastomosis in the most favorable position to avoid traction. The wound was then closed by a double line of sutures—catgut for the peritoneum, and silk for the remaining tissues, being used. The patient's condition during the operation was excellent, but she recovered from the ether very slowly, giving evidence of a good deal of after-shock. This passed off during the night, so that by the following morning she was in a very fair state. She remained in this condition for two days, when she began to freely vomit a chocolate-colored material with a marked cadaveric odor. I then resumed the irrigations of the stomach, using plain water. As they gave her much relief, they were continued at intervals of twenty-four hours, the third and fourth days. She died on the fifth day. Rectal feeding was begun at the close of the operation, and was practically continued up to the day of death. Feeding by the mouth was begun fifty-two hours after the operation, but was stopped in twelve hours, owing to the vomiting. The substance used was peptonized milk, and the amount was one ounce every two hours. The general condition of the patient, considering the nature of the case, was very satisfactory until the beginning of the fourth day. The persistence of the vomiting, together with the nature of the ejected material—it being still deep chocolate color and oppressively cadaveric in odor—showed that a fatal ending was probable. Great feebleness supervened, and the patient steadily sank. The temperature never went above 100° F. until a few hours before death, and the pulse never went above 116 until within twenty-four hours of death. The respirations remained below 25 until the pulse began to mount up above 120, then they rose to 30. On the fourth day I removed the dressings and found that there had been a feeble attempt at union in the abdominal wound. The lower half was gaping between the stitches, and from this portion a watery discharge was exuding. Half an hour after death the wound was opened. As the silk sutures were removed the cut surfaces fell apart. The catgut had been partially absorbed, and there was non-union of the peritoneal surfaces. Practically there was no union of the abdominal incision. The visceral wounds were examined *in situ*. At the cardiac end of the region of anastomosis there was an opening between the stomach and intestine, which extended to about one-half of the circumference of the rings. Protruding through the centre of this opening was the end of the intestinal ring. Throughout the remainder of the circumference of the rings there was the feeblest attempt at union. The best union was at that portion which, as said before, had been left uncovered by the outer protecting line of suture. In fact, the same feeble attempt at union found in the cut in the abdominal wall characterized the reparative process in the entire region of anastomosis.

Opening the stomach the following conditions were seen:

The cardiac half of the ring was wholly digested, no vestige of it being left; all of the ring sutures at that end, three in number, had pulled out, the others held firm; the stomach contents were similar to the vomited material; the constriction at the pylorus was so great that the opening would scarcely admit a goose quill.

The interior of the intestine presented nothing of special note. This ring was intact, but twisted into a figure **8**, one end projecting from the wound as already described.

In presenting this case to the Society I wish to bear testimony to the comparative ease with which the operation can be done, and, in this case, to the readiness with which the upper end of the jejunum was found. I used the meso-colon as a guide, following its under surface directly down to the great vessels, when at the crossing I readily appreciated the beginning of that portion of the small intestine in question. To follow it far enough to obtain a free loop was then a matter of a few seconds. The wisdom of Dr. Weir's procedure, namely, before making either opening to stitch what would be, after the completed operation, the under mesenteric edge of the incised intestine, to the stomach, just below the point at which that organ was to be opened, was clearly proven here, because, after the rings were tied in position, all the under-region was practically beyond reach. As it was, so soon as the rings were tied down all that remained to be done was merely to continue the outside protecting suture from one end of that originally placed around the rings to the other, thus completely covering them. In this case, however, as has been stated, owing to an error in calculation, the protecting suture was deficient for about half an inch.

The difficulty experienced in rectifying the error served the purpose of accentuating the importance of the preliminary stitching. The unfortunate ending of the case was clearly due to the lack of union, and that seemed to be due to the patient's general state. The sequence of events was non-union, or at least very feeble union, digestion of the cardiac half of the ring in the stomach, and loosening of all the ring sutures of that section. This loosening was aided no doubt by the disturbances of vomiting. In reviewing the case from my standpoint, I can detect but one flaw, and that was the omission of scarification of the opposing serous surfaces, as suggested by Secur. In future I will do it.

I followed along the jejunum until I got hold of a portion which could easily be brought out and kept out of the abdominal wound without any difficulty whatever, so that the trouble could not have arisen from not going far enough down; there was no traction. If the anatomical difficulties could be overcome, it would be much better to make the anastomosis on the posterior wall of the stomach, but I agree with Dr. Weir that this would be very difficult. The rings were made according to Abbé's suggestion, were completed two days before the operation, and were kept under pressure until the operation. The sutures were fastened to but two of the strands of catgut in the rings.

HEMORRHAGES IN THE NEW-BORN.[1]

By EDWARD L. PARTRIDGE, M.D.,

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THE relation of the following case will serve to introduce the subject of this paper, and is as follows:

Mrs. T—— was confined at term, on November 14, 1889, the child being born at 10 P.M. Labor was normal; the child, which was her fifth, being a boy of average size and development. The placenta was normal. No hemorrhage took place, though in this, as in previous labors, a marked disposition to uterine inertia was observed. On the following morning, twelve hours after birth, the nurse called attention to the character of the child's urine as indicated by the appearance of the napkins. These, I observed, were deeply stained. There was not present the pinkish appearance caused by the presence of urates, nor an ordinary staining as by bile coloring-matter, but a staining similar to the latter, except that it was deeper and more reddish. The child had not acquired the cutaneous capillary congestion so common on the day after birth, but had a color which was a compromise between a bluish pallor and slight jaundice. Sometime during the night of this day (twenty-four to thirty hours after birth) hemorrhage at the umbilicus began, and early the following morning, on a hasty summons, I found the clothing of the child soaked with blood. So much bleeding had occurred that the outer garment had an irregular, stained, and wet area six inches in diameter. On undressing the infant the belly-band and linen about the navel were found so saturated that blood could be squeezed from them. The cord was normal, and the bleeding was taking place throughout the circumference at the junction of skin and cord, the latter having begun the usual separation. The child was strikingly yellow. I have never seen anything like it in the jaundice of the new-born. The lips were pallid, with a slightly livid hue. A dressing of Rohland's styptic cotton, with compress, was placed with care on the bleeding surface. In the next twenty-four hours three more dressings of the same character were required, owing, each time, to a saturation of previous dressing and of compress. The bleeding was of the nature of a steady oozing, the hydræmic character of the blood being shown in lack of coagulation and in the watery appearance of the blood-stains. Two slight scratches on the child's face kept up a continuous oozing, as well as a scratch in the external auditory canal.

On the following morning removal of dressings was again required, owing to bleeding. The separation of the cord was progressing, a slight arterial pulsation in the bleeding surface, and the escape of blood was more rapid. The navel was transfixed by pins inserted at right angles a quarter of an inch beneath the border of the skin, and a ligature applied with moderate tightness—sufficient to stop bleeding, and with the hope that a new solution of continuity, by pressure of the silk, would not be effected too soon. The child was more deeply jaundiced and had lost his plumpness. He nursed for about ten minutes at infrequent intervals. The scratches steadily oozed, and the movements, which by this time should have been lighter, were dark, and possessed an offensive somewhat putrid odor. Twice during the day it was necessary to tighten the ligature to stop bleeding—on the last occasion it being tied as firmly as possible.

From this time no serious bleeding from the navel occurred, though some leaking took place, and blood continued to escape from the scratches in the face and from the ear for the next five days. The movements continued tarry and offensive for the same length of time. The child kept its deep jaundice, with bloodless lips and wrinkled skin. He cried feebly and was fed breast-milk and brandy by spoon, as he was unable through weakness to nurse. The cord was dressed with iodoform, and was slightly offensive, though as much as possible beyond the ligature was removed. There was considerable superficial œdema of the abdominal wall, without an erythema, as the result of the pins and ligature, but at no time any sign of peritoneal inflammation.

On the seventh day the child nursed a little in a feeble way, the movements were lighter, and the scratches stopped bleeding. Until this time the urine stained the napkins with the dark, reddish color. When quiet one would have readily supposed the child to be dead, from the pallor of lips and of scars of the scratches. The skin resembled that of the deepest yellow of an advanced case of cirrhosis of the liver.

On the ninth day the stump of cord separated without hemorrhage. From this time there was a slow but steady gain in every way.

By December 1st, the sixteenth day, the child was nursing very well, had much less jaundice, exhibited a fair degree of strength, had light-colored stools, and urine normal in appearance. The navel was now nearly healed.

The previous children in this family have lived, though at times showing rather marked anæmic tendencies.

Hemorrhages in the new-born are not of very infrequent occurrence, and an effort is made at the present day to accomplish some classification of them based upon cause.

The blood itself and the blood-vessels have received chief attention; while inherited disease and diathesis have received their share of study.

During the last six years, among 1,166 infants born at the Nursery and Child's Hospital, 11 have presented, within the first ten days of life, hemorrhages varying in character and gravity. Death occurred in seventy-five per cent.

At the Sloane Maternity Hospital, from 850 infants born, there have been 14 cases of this nature, with a mortality of over sixty per cent. (1½ per cent. in 2,000 cases). The result of investigation of family history among hospital patients is never very satisfactory. Circumstances illustrating family hemorrhagic tendencies would be dramatic enough, however, to hold attention, and it would seem that in a matter requiring such simple observation and information facts supporting hereditary disposition would be discovered if they existed.

In no instance from over thirty cases which have been known by me have I obtained history of hereditary influence.

In the writings of those who consider cases of hemorrhages in the new-born the word "hæmatophilia" is used to designate the condition in them however, though we do not find that reports of these cases usually afford evidence of this inherited diathesis. This certainly cannot be said of spontaneous hemorrhages in older children and in adults. The term hæmatophilia, then, if it implies the hereditary influence, is hardly applicable to the very great majority of hemorrhages in the new-born.

The tendencies to hemorrhages in families of bleeders is rarely shown before the second, and most commonly after the fifth, year. In infants born in such families

[1] Read before the Practitioners' Society of New York, May 23, 1890.

hemorrhage from the umbilicus after sloughing of the cord is very rare.

In looking for the cause, or causes, of hemorrhage in the new-born, we thus speedily eliminate the hereditary nature. Were these hemorrhages limited to certain localities our attention would be toward special parts or organs. Umbilical hemorrhage would be favored always by the uniform presence of a solution of skin continuity at the navel in the new-born, yet in the great majority of instances it is associated with hemorrhages elsewhere. In view of this latter fact we cannot assume a mechanical or a physiological influence from sudden change in the abdominal or liver circulation after birth, when immediate closure of umbilical arteries and vein takes place.

Hemorrhages in the cases which I have seen have occurred from vessels in almost every part of the body, and in almost every organ. I have seen it in its most severe character—and non-traumatic—from conjunctiva of both lid and eyeball; from ears, mouth, nose, vagina, scrotum, beneath the skin in lumbar and gluteal regions, cheeks, abdomen, trunk, and extremities, and, less commonly, in subcutaneous cellular tissue. Hemorrhages from stomach and intestine are rather common, and in post-mortem examinations I have known them to be subpleural and subperitoneal; in the heart and lungs, mediastinum, abdominal and cranial cavities, and four times in or upon the suprarenal capsules.

The condition seems more common in the middle and lower classes, and does not belong to children who appear small and badly nourished at birth. A history of syphilis in the mother is occasionally met with, tubercular predisposition not being noticeable. In the parents of these children we do not find health which could be termed the most robust, however.

In the great majority of cases then—some of which prove fatal from loss of blood and inanition, and some of which recover—in the absence of sepsis and with no hæmoglobinæmia to a degree which could be called disease, we are reduced to find an explanation in primary changes of the circulating fluid, or in the structures of the vascular system.

As the condition of the blood alone cannot account for the hemorrhages, impairment of the vessel-walls must exist.

As having some importance on the etiology, I would call attention to the fact that before birth the child grows simply through the influence of maternal functions. It has not a functional activity of its own. There is no cerebration, and little or no evidence of digestive function. The liver, large as it is at birth, has secreted but faint traces of bile, and the kidneys but little urine. The function of assimilation alone has gone on.

All tissues are embryonic, and so continue, mainly, for a time after birth. It is only when a separate existence has continued for a time that a waste and renewal of tissues have taken place. Before this has transpired, let us say for the first ten days of life, we have tissues of extremely delicate and fragile organization, and we have vascular structures developed sufficiently only for a physiological existence which has not previously required any special influence of nerve-centres or visceral activity in the child. Suddenly, at birth, a new kind of existence is required, and it is significant that after the first ten days of life hemorrhages do not occur. Defective innervation and imperfect performance of functions are not uncommonly seen in the beginning of infantile life, and a very brief interruption of the nutrition of blood-vessels is known to be sufficient for transudation of their contents. We can readily believe that these delicate tissues may be liable to degeneration which will be disproportionate to regeneration, increasing the liability to hemorrhage.

If hæmic changes are added, or some dyscrasia present, obtained through lack of parental vigor, the liability is increased.

In another class of cases of hemorrhage in the new-born, illustrated by a small minority, we find an altered blood state as the chief determining cause, and associated with the bleeding we find, to a striking degree, the occurrence of jaundice and of urinary signs of disease.

Here the pathology of to-day has endeavored to establish a germ origin, and special study of the blood has been already undertaken. For a long period an occasional case, associated with a remarkable degree of jaundice, has attracted attention from unusual malignancy, and from a knowledge of an occasional relation of syphilis to infantile hemorrhages we have formerly contented ourselves with falling back upon that disease as the cause, or have been satisfied with the diagnosis of acute fatty degeneration.

Then attention noted the association of fatty degeneration with loss of hæmoglobin. Finally, hæmoglobinuria was noted as the urinary condition, associated with deep jaundice or cyanosis, with an altered blood condition, and with hemorrhages in the new-born.

Hæmoglobinuria as the result of corpuscular degeneration and a solution of hæmoglobin in the blood plasma is known to have its origin through the introduction of various agents into the system, such as naphthol, pyrogallic acid, arsenuretted hydrogen, chlorate of potassium, anilin, and others. Extensive burns of the surface and transfusion of blood are also productive.

The fœtus is not much exposed to the introduction into its system of the agents first mentioned. Disease of the placenta (a condition often noted in connection with the birth of the grave cases of infantile hæmoglobinuria) would, through degeneration of placental villi and tufts, readily afford a direct communication between maternal and fœtal blood, and an actual introduction of alien blood, with any morbific principle it may contain, into the blood of the fœtus.

Hirst has reported an interesting case of acute hæmoglobinuria and hemorrhage in the new-born, in which he obtained cultures from the blood before and after death, as well as from the spleen, the product being regarded as the streptococcus pyogenes. Also portions of spleen, lungs, liver, and kidney showed presence of micrococci under the microscope. In this case the mother had been obscurely ill just before delivery, the placenta being "slightly calcified." It was thought that "some overlooked focus of suppuration in the mother's structure produced general fœtal metastasis and hæmic infection in the infant."

Winckel has described endemic hæmoglobinuria in the new-born, giving a report of twenty-three cases with nineteen deaths. The disease presented the symptoms of jaundice, cyanosis, and hemorrhages. The post-mortem appearances were the hæmoglobin streaks in the renal pyramids, swelling of Peyer's patches and mesenteric glands, and fatty visceral degenerations. The cause in this group of cases was not made out, but Winckel leans strongly to the view of germ-infection.

A few observers have described isolated cases, among them Vogel, who has observed instances in which malignant icterus in infants coexisted with puerperal septicæmia, and who believed the two conditions to be due to a common infectious element. Besides the case which I have related I have seen two others which were fatal. In them there was deep jaundice, dark-colored urine, and, on autopsy, blood which showed little or no coagulability.

It is evident that there is a field for investigation in acute hæmoglobinuria of the new-born. The much more common origin of the cases in hospital rather than in private practice may be noted, and it would be the former class of infants which would be most exposed to septic infection, which, perhaps, produces the disease. In the more numerous class first mentioned, unattended by hæmoglobinuria, infection may be a factor in their causation, for septic infection does not necessarily run a grave course. While I am not sure to what class the case I have reported belongs, I believe that there was disintegration of the red corpuscles, and that hæmoglobinuria,

suggested by superficial examination of the urine, would have been confirmed by laboratory examination. The only lacking clinical feature was marked cyanosis; yet with pallor from loss of blood, and with the intense icterus, it would not be readily distinguished, particularly in what must have been a comparatively mild condition of blood change, as shown by the child's recovery. There is also a probability that in those cases attended by deep jaundice the dissolved hæmoglobin is converted into biliary coloring matter—bilirubin—giving a yellow rather than a cyanotic appearance to the tissues; the cyanosis so often noted in hæmoglobinuria being known to be due to a conversion of hæmglobin into methæmoglobin, the latter being incapable of carrying oxygen. In the latter event the tissues fail of the reddish, oxygenated appearance, and present the bluish color.

There is an interesting fact, to which Silbermann has called attention, which probably places all cases of hemorrhage in the new-born upon a common basis of hæmatogenous origin to some extent at least.

Between the less severe cases, with recovery, and the very grave and usually fatal cases presenting all the evidence of acute hæmoglobinuria, there is the connecting link of hæmoglobinæmia common to all new-born. Silbermann has found that within the first week of life there is a reduction of about one-third in the number of red blood corpuscles in all infants, and calls this change a physiological hæmoglobinæmia. This condition, though physiological, is yet of the nature of a very marked hæmic alteration, and associated with the embryonic character of tissues explains, to my mind, the more mild cases of hemorrhage in the new-born. When the physiological blood-change becomes pathological, through the influences we have previously mentioned, and there is added, as evidence of this, hæmoglobinuria and active fatty degenerative changes, we have the grave and usually fatal class as the result.

A consideration of hemorrhage in the new-born would not be complete without an allusion to the occasional appearance of vaginal discharge of blood and mucus in the first three weeks of life, usually about the end of the first week. This continues from three to five days, is moderate in amount, and rarely recurs. The health of the child is not influenced by it. I have seen three cases, the discharge being present behind the hymen, but, as far as I know, no one has ever determined the precise bleeding surface.

Autopsies have shown blood in the uterine cavity, though it is not shown in these reports that these were cases of simple genital hemorrhage. As such genital discharge of blood occurs in female children only, it cannot be due wholly to ligation of umbilical arteries, or to tight application of the abdominal binder, as has been suggested. No satisfactory explanation has been offered for this discharge, which closely resembles menstruation in its duration and method of onset and departure, but which is rarely repeated. Probably, like the turgescence of the mammæ seen in young infants, it has an origin in part through nerve stimulus. There is always some mucus present in the vagina of a new-born child, which would account for this admixture in the discharge, and fragility of tissues would exist, according to my opinion already expressed.

The Urine during Pregnancy.—Professor Tarnier has made public the conclusions of a work by Drs. Laulanié and Chambrelent on the considerable diminution of the toxicity of the urine of pregnant women, particularly toward the end of their gestation. This toxicity is far inferior to that of normal urine, as established by Professor Bouchard. In two experiments out of ten the urine of pregnant women was atoxic. The authors therefore conclude that the organism of a woman toward the end of her pregnancy retains the toxic substances ordinarily eliminated by the urine.

THE PROGNOSIS OF LATERAL CURVATURE IN YOUNG GIRLS.[1]

By V. P. GIBNEY, M.D.,

NEW YORK.

At the request of the Secretary of the Society, a gentleman who is competent to decide on the merits of papers presented to this body, I have made an attempt this evening to discourse upon the above title. I am sure that the practitioner of medicine is always ready to express his views upon the prognosis of lateral curvature. The impression prevails that the deformity is progressive, that a slight curve ends in a hunchback, and that something mechanical must be applied in order to prevent this result. At the outset, then, let me state my conviction that one seldom has an opportunity of observing the evolution of a lateral curvature of the spine. Somehow or other the apparatus we employ or the treatment we suggest succeeds (so to speak) in arresting the deformity. For ten or twelve years, while interne at the Hospital for the Ruptured and Crippled, and while in charge, also, of the Out-patient Department, I had an opportunity of following a large number of cases of lateral curvature in young girls, and the routine treatment was this: Applied a Knight brace, which was made to fit the body as nearly as possible, made of steel, with bands half-encircling the body (the posterior half) from axilla to axilla, from ilio-costal space to ilio-costal space, from trochanter to trochanter, and the terminal ends of these bands, connected by uprights, passing from the axilla down to the trochanter. One or two bars were placed in the middle half, either side of the vertical bearing of the spine, a leather or steel plate passed from one of the posterior bars to the lateral bar, the object of which was to make pressure against the projecting ribs, and this steel framework, properly upholstered, was held in place by canvas fronts. Shoulder-straps were employed to complete the appliance, and we had thus a steel and canvas encasement, which the patient wore by day, removed by night, and reported from time to time, in order to see that a reasonable fit had been secured. In addition to the mechanical appliance thus employed, each patient was instructed to exercise on parallel bars five or ten minutes twice a day, with or without apparatus. The parallel bar exercise consisted in suspending themselves by the arms and hands, allowing the weight of the pelvis and limbs to make a certain amount of traction on the column. No other exercises were employed.

Simple as this treatment was, and crude as it seemed to many to be, I was enabled, at the end of eleven years' residence in the hospital, to express my opinion that I had never seen a complete evolution of a lateral curvature of the spine. That is to say: I had not seen a case in the early stage, where osseous changes were absent, proceed to the development of a marked rotary lateral curve, with prominence of one shoulder, enlarged letter **S** deformity, shortening of stature, and an overlapping of the ilium by the free ribs.

It is true, during this period, while the plaster-of-Paris jacket was so popular, that I read and heard of cases wherein the treatment I have just recorded had been employed, and where the patient stated that the deformity had increased perceptibly, to be relieved only by the plaster-of-Paris jacket. Lectures were held upon our cases. These lectures were reported in the journals, and occasionally some old patient, who had been treated right royally at the hospital, would return to show what a wonderful change had been effected by this new treatment.

In 1884, relieved from hospital duty, I became quite enthusiastic in the plastic treatment of this deformity. I secured, by reason of my long personal acquaintance with many dispensary patients, a large contingent at my clinic. I familiarized myself with the details of the jacket, studied it as I would an art, and after a year or two acquired a fair degree of skill in its application. I

[1] Read before the Practitioners' Society, May 23, 1890.

treated not only my clinic, but my private patients with the plaster-of-Paris corset, and combined with this treatment certain exercises said to emanate from Mr. Bernard Roth, of London. After three years of this kind of practice I was enabled to state that I had seen the evolution of a rotary lateral curvature. So that, in 1887, during the summer, my enthusiasm had suffered such a shock that I decided to abandon the plaster-of-Paris corset as a mode of treatment. During this time, however, I had employed occasionally certain other forms of steel appliances with equally unsatisfactory results. Visiting Mr. Roth, of London, I gathered from him the opinion that medical gymnastics were all that is necessary to prevent deformity, and, in many instances, to correct. This gentleman asserted quite positively that the combination of steel and plastic appliances with gymnastics was a form of treatment which resulted in no benefit; that gymnastics, employed once or twice in the twenty-four hours, the object of which was to develop muscles, were counteracted most efficiently by steel or plastic appliances during the rest of the time.

In the fall of 1887 I began the treatment by medical gymnastics, as I had learned it from Mr. Roth, and I am happy to say that the majority of my cases have done well. I do not mean to state that many have been cured, but I do mean to state that in rare instances only has the deformity increased, or have the parents and patients been dissatisfied with the result.

During this long period of eighteen or nineteen years, I have seen a large number of patients who presented a slight degree of deformity, wherein no appreciable increase has taken place even without treatment. In many instances I have recommended an out-of-door life, horseback riding, rowing, and deportment to patients who lived in the country, and I have learned from the family physicians, years afterward, that the deformity had become scarcely appreciable, and that the cases had given them no more anxiety. I have become, therefore, an advocate for an out-of-door life in young girls who were crowded at school, who keep too long hours in any capacity, and who have acquired a slovenly position in standing or sitting.

With the Swedish-movement cure I have had no extended experience. For the past three or four months, however, a gentleman, Mr. Lindhe, recommended to me very highly by Dr. Purdy, of this city, has taken charge of my charity cases at the hospital, out-patient department, and has labored daily with a class numbering about thirty. The movements differ somewhat from those of Mr. Roth, in that more force is employed. This gentleman has consented to bring a number of my patients here this evening and show you his method. The testimony of the parents and girls themselves is that they have improved. The gentlemen present will agree with me that the only way to predicate any results would be to examine carefully with a scoliosometer, and repeat the examinations months or years afterward. The difficulties attending a careful measurement are so great that I have come to rely upon a few salient points in the way of record, and upon the eye in determining the amount of improvement or the reverse. My results, then, are measured in this way.

The foregoing remarks are necessary, I think, to a proper study of the subject in hand, namely—The Prognosis of Lateral Curvature in Young Girls. The family physician is, or ought to be, consulted quite early in any kind of deformity. The deformity now under consideration is usually first observed by the dressmaker. The attention of the parents is called to inequality of the two sides. One shoulder-blade projects a little more than the other; one hip may be higher than the other, and the dress skirt on one side must be a little longer. There is, in a word, a lack of symmetry.

The different methods of treatment discussed are sufficient to encourage the practitioner in the management of his cases. It is sufficient, thus, to be forewarned.

The average physician can recognize an early case of lateral curvature, provided he take the trouble to examine. The following method, I think, will enable anyone to discover a curve, however slight. Let the patient be stripped down to the hips, not the waist-band, but down to the hips; let the skirts be fastened around the pelvis just above the trochanters major; have the shoes removed, let the patient stand in stocking-feet; then let a good light be brought to bear upon the back. Any lack of symmetry can be easily recognized. One wants to note the position of the scapulæ, whether one is on a higher plane than the other, whether one is farther removed from the spinous processes or the vertical bearing than the other, whether one projects farther backward than the other. Examine the tips of the shoulders to note whether one shoulder is higher than the other. Compare the ilio-costal spaces, note whether one is deeper, or whether the curve is longer than the other. Finally, the deviation of the spinal column itself, the locality where the deviation occurs, and the projection of the ribs on one or the other side should be noted. A front view can be had, which will enable one to determine any rachitic changes in the sternum or any inequality of the mammæ. In lateral curvature it must be remembered that one mamma is larger than the other, and the larger mamma corresponds to the side on which the concavity of the curve is found. Let the patient now bend forward as far as possible at the hips without bending the knees, and aim to touch the floor with the fingers. This will show the inequality of the chest-walls, will show how much more prominent the ribs are on one side than on the other. One can also note the prominence or the reverse of the spinous processes, and can thus determine quite easily that part of the column where the rotation is greatest. No examination can be complete, however, without measuring the length of the limbs, not only with the tape-measure, but also in an upright position, by placing books of various thicknesses under each foot and noting how much thickness is requisite to equalize the pelvis and to reduce the actual deviation to the minimum. Dr. Morton, of Philadelphia, has a very ingenious contrivance for this, but it is practically the same as the method just mentioned, namely—books of various thicknesses.

With the observations completed, a prognosis can be readily given. I, of course, do not mean to say that the prognosis can be given independent of any treatment employed, but what I mean is this: The physician who has made the examination just described will adopt some method of treatment that will, as a rule, result favorably. The difficulty is not in one's ignorance of what to adopt, but in the lack of interest manifested by the parents or the patient. Again, physicians are so uncertain about the different forms of apparatus that they give their opinion in an uncertain sort of way, and it is not regarded as of much value. The prominence given to athletic sports in general now, for both sexes, I think will enable us to give a better prognosis in our cases. Whatever course of exercises is decided upon, it must be carried out thoroughly. A daily drill is requisite. It is not sufficient to say to the patient, "Go home and exercise," or "Take this and take that." It is important to show the patient how to exercise. If a brace is to be employed, it should be made to fit the patient, and should not be worn at night. If I find a cardiac murmur, I do not prescribe a course of exercises, unless I can direct them myself and know the influence on the organ itself. Such patients I prefer to encase in a steel apparatus.

This deformity, like many diseases, is self-limited. A little twist is developed in the back, one shoulder projects a little more than the other, and a curvature results. The curvature is so slight that it is not recognized, and the patient grows to womanhood without ever knowing that she has a curve. Such instances do occur. They are not frequent, only it is important to know that all curves do not go on to great deformity. In my opinion the greatly deformed cases are the exception. Con-

sidering the number of girls who have one hip higher than the other, or one shoulder more prominent, it is astonishing that we do not have more exaggerated deformities with our present ideas of the progress of such cases. It simply means that a great deal too much stress can be laid upon a slight deformity, while repeated observations will enable one to determine whether it really is increasing or not. If such a patient had been advised to take better care of the health, to cultivate a better deportment, to take every opportunity for improvement of the muscular system, one can reasonably give a good prognosis.

To conclude, then, we see that The Prognosis of Lateral Curvature in Young Girls depends a great deal upon the early recognition of the deformity. It will also depend upon the thoroughness of the treatment employed. If an apparatus is used, it must be made so as to meet the indications and must be worn for a long time, from two to five years. If gymnastics are prescribed, the patient must be taught the different movements, must be drilled in the same after a good knowledge is acquired, and the exercises should be continued at home for a year or two. If it is found that the deformity is very slight and the patient can lead an out-of-door life, and is not crowded too much at school, a good prognosis can be expected if only the ordinary rules governing general health are observed. In the more advanced cases it is not possible to correct the deformity to any great extent. Indeed, it may safely be assumed now that no form of treatment yet adopted is equal to the correction of an osseous deformity. All that we can hope is a better position in standing and sitting, a better carriage, a filling out of the chest more symmetrically, and an ability on the part of the patient to hide the deformity.

A CASE OF ALCOHOLIC CIRRHOSIS OF THE LIVER IN A BOY, AGED THIRTEEN.[1]

By HERMANN M. BIGGS, M.D.,

NEW YORK.

In the early part of April of this year, through the courtesy of Dr. Jenkins (coroner's physician), I performed the autopsy on a boy, aged thirteen, who had died, with the following history: He was found in an unconscious condition at 1 P.M., in an outside water-closet, his absence having been noted for several hours. He was removed to the house, and died a few hours later without regaining consciousness. In the house was found a soda-water bottle, nearly emptied, but still containing a small amount of whiskey. The previous history, as given by the family, was about as follows: When two and a half years of age he had an attack of bronchitis, and was then given whiskey. He contracted at once apparently a taste for it, and its use had been continued to a greater or less extent since that time. He had suffered from most of the diseases of childhood, and had always received whiskey at these times. The family said he was a rather stupid boy; there were few things he cared for, and as he liked whiskey he had always been allowed to have it, and during the last two or three years had taken it almost constantly. He was supplied daily with money, and regularly went to the saloon each day to replenish his supply. He was accustomed to taking from one ounce to an ounce and a half in milk, five or six times daily. Early on the morning of his death he seemed to be well, and went out as usual to have his bottle filled.

Apparently a much larger quantity than usual was taken, and his death was the result, as it was believed, from acute alocholic poisoning supervening on a chronic alcoholic condition. His general stupidity was probably due to the semi-intoxicated condition in which he had constantly been during the larger part of his life. Strangely enough the boy's family was rather superior to those of the ordinary working-classes. His father was a perfectly temperate man, and the other members of the family only drank occasionally and in moderation.

Autopsy.—Subject presented in miniature the picture of chronic advanced alcoholism as seen in old subjects. His face was pale, pasty, and bloated. There was slight œdema of the legs, the abdomen was large and the layer of fat extremely thick. On opening the abdomen the liver extended an inch and a half below the free border of the ribs, and its surface presented the typical appearance of a well-marked hobnailed liver. There was no fluid in the abdominal cavity. The heart was slightly large for the age of the subject and the lungs somewhat œdematous. The spleen was enlarged, rather firm, and weighed 400 grammes. The kidney presented the usual appearances of a very moderately developed diffuse nephritis. The capacity of the stomach was increased and the mucous membrane was thickened and congested, and was covered by a thick, glassy mucus. The brain showed what is familiarly known as a "wet brain." On opening the dura a large amount of fluid escaped, and the meshes of the pia were distended with serum; the ventricles were greatly dilated, and the ependyma was tough, fibrous, and granular.

To return to the liver. The surface was characteristically hobnailed, the elevated portions being of a light yellow color, and the depressed lines between them a bright red. The size was considerably increased, and the weight was 1,430 grammes. On section the tissue was friable and presented the same bright yellow projecting portions with narrow depressed grayish lines surrounding them. The microscopical appearances showed the ordinary changes found in cirrhosis, but the fatty infiltration of the liver, cells was extraordinarily advanced. The amount of new-formed connective tissue was not great.

The literature of this subject is very scanty and of recent date. Most authors agree to the comparative rarity of the disease in children.

Two careful papers were published in 1887 on cirrhosis of the liver in children; one by Dr. Howard[1] and another by Drs. Laurie and Honorat.[2] Both of these papers are introduced by quotations affirming the extreme rarity of hepatic cirrhosis in children.

In Dr. Howard's paper Dr. Charles West is quoted as stating that an experience in 70,000 cases of children's diseases has yielded him but 4 cases of cirrhosis of the liver. Henoch has never seen a case, and Dr. Neureuter is said to estimate its ratio to other diseases as one-tenth of one per cent.

Rarer by far are those in which the disease is due to the common cause of its existence in adults—alcoholism. There are but few such cases on record. In a collection of 63 cases made by Dr. Howard (2 of which are his own) only 10 had a history of abuse of alcohol. In addition to these Dr. Norman Moore[3] reports a case in a boy, aged five, in whom hepatic cirrhosis was due to alcohol; and Dr. Wilks reports a case, at eight years of age, in a girl known to have taken gin in quantities of half a pint daily.

The two papers, Dr. Howard's and Drs. Laurie and Honorat's, contain together a series of 78 cases of cirrhosis from all causes. Thirty-three of these are identical, 17 appear alone in the French paper, and 28 alone in Dr. Howard's. Dr. v. Kahlden[4] has gathered the following data from the literature on the subject: As to size of the liver, in 19 cases it was atrophic, in 6 cases normal, in 15 cases larger. As to the age of the subject: 1 child born dead; 3 died first week; 1 died first month; 4 died in three months; 1 died in four months; 4 aged fifteen to twenty months; 3 aged between one and one-half and two years; 2 aged three years; 13 aged five to eight years; 28 aged nine to thirteen years; 2 aged fourteen to fifteen years. Thirty-five were male, 14 female. In

[1] Read before the New York Practitioners' Society, May 2, 1890.

[1] American Journal of the Medical Sciences.
[2] Revue Mensuelle des Maladies de l'Enfance.
[3] British Medical Journal, April 20, 1889.
[4] Arch. für Kinderheilkunde, xxvi., 402.

34 cases ascites was present; in 23 cases icterus was present.

As to causes of cirrhosis in children other than alcohol: In 7 cases of Dr. Howard's collection a heredito-syphilitic origin was reported. In one case venous congestion was the probable cause. In another there was a white false membrane in all parts of the abdomen enclosing the liver, and this led to the belief that peritonitis may have extended to the capsule of the liver and excited interstitial hepatitis. In 7 or 8 cases the cirrhosis was associated with tubercular disease.

Dr. Legg reports a case of biliary cirrhosis in an infant, due to congenital absence of the bile-ducts.

In about half of the 63 cases reported by Dr. Howard the cause of the disease was not accounted for. Dr. Howard raises the question whether cirrhosis of the liver in children may not in many cases be regarded as secondary to one of the infectious diseases, such as measles, typhoid fever, and scarlet fever. There is, as Dr. Howard admits, no proof of this, but it seems a very probable supposition, and the experience of a few authors furnishes some evidence.

Dr. Crook,[1] and also Dr. Klein, state that they have found extensive acute hepatitis in children who died of scarlet fever. Drs. Laurie and Honorat also seem to regard the various forms of infectious diseases, especially measles, as etiological factors of hepatic cirrhosis in children.

A number of cases of cirrhosis have been reported as having been found at birth. One of them was at the thirtieth week of utero-gestation, and another at the thirty-fourth week. Those cases of congenital disease, and also those occurring during the first year of life, are probably all syphilitic in character. V. Kahlden, in fact, states that all of the cases of syphilitic cirrhosis are congenital, and that acquired syphilis never produces a true cirrhosis.

Tuberculosis and tubercular peritonitis have been associated with cirrhosis in children in a number of cases. Dr. G. N. Pitt[2] reports two cases of hepatic cirrhosis in children, with tuberculosis of the liver and tubercular peritonitis.

Dr. Norman Moore states that he has seen cases of cirrhosis indistinguishable from alcoholic cirrhosis in chronic tubercular peritonitis.

The known causes, then, of the disease in children, seem to be nearly the same as those assigned as having a causative agency in its production in adults, viz., alcohol, syphilis, and, in addition, possibly tuberculosis and tubercular peritonitis, and a general tendency to connective-tissue formation.

There remains, however, a very large proportion of cases—nearly one-half—in which these causes do not account for the occurrence of the disease. It seems probable, however, as has been suggested by Klein, Crook, Howard, and others, that the acute infectious diseases may occasionally produce the disease, and finally, that a stimulating diet and the products of faulty digestion may also occasion interstitial new formation in the liver. If we admit, as is probably the case, that the so-called interstitial inflammations are really all secondary processes following regressional changes in the liver-cells, this large class of cases can be easily accounted for under the latter heads.

The symptoms presented in children are essentially the same as those seen in adults; ascites, icterus, and pyrexia are often found, and death frequently occurs with symptoms of toxic poisoning, coma, convulsions, etc.

58 East Twenty-fifth Street.

Professor Henoch, of Berlin, the distinguished writer on diseases of children, recently celebrated his seventieth birthday.

[1] British Medical Journal, April 26, 1889.
[2] Medical Times, ii., 1852.

REPORT OF A CASE OF OVARIAN TUMOR —ANÆMIA—AND DEATH BY THROMBOSIS OF PULMONARY ARTERY.[1]

By CLEMENT CLEVELAND, M.D.,

SURGEON TO THE WOMAN'S HOSPITAL AND TO THE NEW YORK CANCER HOSPITAL.

Mrs. T—— entered my service, at the Woman's Hospital, November 18, 1889. Her history presented the following points: She was forty-eight years of age, and a widow. Menstruated first at fifteen and was always regular. She was married at twenty-five, and had been a widow for a number of years. She had never been pregnant. Latterly menstruation had been scanty, though of normal duration. Her last menstruation before entering the hospital occurred on November 3d. A little more than a year before she discovered a swelling in the abdomen, below the umbilicus, which had grown steadily ever since. For the past two weeks she has suffered a great deal of pain in the hypogastrium and back.

The measurements of the abdomen give the following: Circumference at largest part, 32 inches; circumference at umbilicus, 31½ inches; ensiform to umbilicus, 7½ inches; ensiform to pubes, 13½ inches; anterior hyoid spine to anterior hyoid spine, 11½ inches. Her general condition bad; profoundly anæmic.

Diagnosis of Abdominal Tumor—Multilocular Ovarian Cyst.—The patient was seen by the late Dr. Hunter during the past spring, and he then diagnosed an ovarian cyst and advised immediate removal. I am informed that the patient was then in good condition and was not at all anæmic. For several months she says she has been unable to take solid food, and that her appetite has been very fitful. She had a horror of a hospital, so she said, and could not make up her mind to enter till her condition became unbearable.

November 28th.—She had a passage containing a large quantity of blood, and a little later passed more blood. After this she fainted, and it was then found necessary to lay her in bed, at which she rebelled and was very unruly on that account. She was put on whiskey, digitalis, and ergot, to no avail. Each day she had the bloody stools. I began to think the tumor must be malignant.

November 30th.—She insisted upon getting out of bed, and at once fainted and fell upon the floor. She vomited often, and was pulseless for some time; but after much difficulty she rallied by the use of hot bottles and brandy, and hot-water enemata.

The patient retained her bed after this, and her condition did not improve.

December 18th.—Patient became pulseless and cold at extremities. There was marked dyspnœa. The patient died suddenly, apparently from œdema of lungs.

The hemorrhages can apparently be explained only upon the blood condition.

Report of Autopsy.—*Head:* Not examined. *Thorax:* Heart normal, muscle pale. Lungs, œdematous; considerable fluid in both pleural cavities. No adhesions. Thrombus of the left pulmonary artery, extending into four of its main branches. *Abdomen:* All the organs are normal but pale in color. *Pelvis:* Right ovary replaced by a large multilocular cyst, which extends upward into the anterior region of the abdominal cavity, reaching from a point about two inches below the stomach to the pubes, and extending from one side to the other in a transverse direction. The omentum is drawn down over the anterior surface of the cyst and firmly attached to its lower third. The cyst is an irregular ovoid mass measuring 61 × 52 ctm. in circumference. Left ovary enlarged, irregular in shape, measuring 6 × 3 × 4 ctm. Two small, thinned-walled cysts are attached to one end of the ovary.

The cyst was hardened in Flemming's chromic acetic acid mixture. The composition of this fluid is as follows: one per cent. aqueous solution of chromic acid, 25

[1] Read before the Practitioners' Society of New York, May 23, 1890

parts; one per cent. aqueous solution of hydric acetate, 10 parts; water, 70 parts.

The fluid contents of the tumor having been removed, the above fluid was injected into its cavity under a pressure of eighteen inches of water, until the cyst was distended to its natural size. The distended cyst was then placed in a large quantity of the above fluid for fifty-six hours. It was then removed, the fluid in its interior drawn off, and the cyst washed in water until the latter ceased to be tinged yellow. It was then placed in eighty per cent. alcohol for further hardening.

The action of the Flemming's fluid is slow and there is but little distortion, the natural shape of the various cysts being well preserved. G. C. FREEBORN, *Pathologist.*

Progress of Medical Science.

Treatment of Long-standing Dislocation of Both Shoulders.—Lister has reported two cases of dislocation of both shoulders remaining unreduced at the end of eight weeks and seven months, respectively. Having ruptured the axillary artery in a case of the same sort, he decided to cut down upon the bone before trying to reduce it. He made an incision from the coracoid process downward and somewhat outward, in the interval between the deltoid and the pectoralis major, and divided the tendon of the subscapularis at its insertion, and then with a periosteum elevator separated the soft parts from the head of the bone and the inner part of its neck. Pulleys were then applied, and as this traction showed some fibrous bands that were put on the stretch, these were divided. As the head of the bone would not return to its position it was protruded through the wound, as for resection, and the external rotators cut through at their insertion. Then, after several attempts with pulley traction, the bone was returned to the glenoid cavity. The wound healed kindly. A week later the other shoulder was operated on in a like manner, except that the head of the bone was immediately protruded and the rotators divided. In seven weeks after the operation the patient was able to dress himself alone, and from that time continually gained power in the arms. In the second case the same operation was done on the left arm seven months after the injury. The right arm was not operated on until six months later. In this case, instead of detaching the soft parts from the bone, the head of the bone was removed with the chisel, when the bone went rapidly into place. After this procedure the return of function did not seem to be as rapid and complete as where the bone was left intact. Both cases after operation were able to earn their living by hard manual labor. As a result of this experience, Lister advises that when the surgeon feels in doubt as to whether it is prudent to make attempts at reduction, or when such attempts do not succeed, he should, in the first place, cut down upon the bone by the usual incision from the coracoid process downward and a little outward, and then, with a curved periosteum-detacher, freely separate the soft parts from the inner side of the upper end of the humerus. If this fails, he may proceed to turn out the head of the bone, detaching the insertions of the rotator muscles. Even if this procedure fail, the removal of the head of the bone is open to us.—*The Annals of Surgery.*

Fracture of the Larynx and Trachea.—A remarkable case of fracture of the larynx has recently been reported by Dr. Desvernine, of Havana. The patient was a man who came under Dr. Desvernine's observation for the first time at the end of 1887. In 1878, being then aged fifteen, he was struck by the cross-bar of a trapeze over the region of the larynx. The immediate symptoms were hemorrhage from the mouth, with intense pain in the throat, dysphonia, and slight dyspnœa. The difficulty of breathing became gradually worse; there was some emphysema of the neck, and tracheotomy had to be performed twelve days after the accident. Except for a certain tendency to catch cold, he remained in good health for several years. When he came under the notice of Dr. Desvernine he was suffering from well-marked pulmonary phthisis. He had dispensed with the tracheotomy tube for three or four years, and breathed through a circular aperture hardly five millimetres in diameter externally. The voice was hoarse but intelligible, deep in tone, and monotonous in *timbre.* On laryngoscopic examination the cords were seen to be completely fused together, forming a uniform plane surface, smooth and red like the rest of the mucous membrane, and presenting a tiny orifice close to the anterior commissure. Posteriorly the arytenoid cartilages were fixed in the adducted position. During phonation the patient closed the tracheal aperture, and the ventricular bands came slowly together in the middle line, so as to form a false glottis, the edges of which were arched upward in the antero-posterior direction, as if by muscular contraction. The infra-glottic region presented no abnormality beyond a diminution in size, owing to thickening of its walls. Dr. Desvernine proposed to divide, *per vias naturales*, the adhesions which bound the cords together; but the operation was declined, and the patient died of phthisis in 1888. On post-mortem examination the line of fracture was seen to have extended from above downward in the middle line, involving the whole of the thyroid and cricoid, and the four upper tracheal cartilages. The ventricular bands were found developed to double their ordinary thickness. This was due to hypertrophy of the muscular fibres in the bands and in the aryteno-epiglottic folds. The condition of the glottis was as above described, the crico-arytenoid articulations being firmly anchylosed, and the dilator, adductor, and tensor muscles much atrophied. Microscopic examination of the vocal cords showed that their amalgamation was the result of acute inflammation. The case is interesting as proving that in some cases the ventricular bands may to a certain extent take on the action of the true cords, and serve for the production of voice. The air came through the small aperture (measuring 2 millimetres in length and 1¼ in breadth) at the anterior commissure, and the ventricular bands were distinctly seen to vibrate during phonation; on the patient withdrawing his finger from the aperture in the trachea, movement and sound alike ceased. Dr. Desvernine is inclined to believe that the phthisis was an indirect result of the accident, from the insufficient aëration of the lungs and the proneness to catarrh induced by the condition of the larynx.—*The British Medical Journal.*

Secretion of Blood Instead of Milk.—Dr. Habergritz reports a case of the secretion of blood in the breasts. The patient was a young married woman who, when she had been pregnant with her first child about six months, consulted Dr. Habergritz as to whether the fœtus was alive. He noticed some blood stains on her linen in the neighborhood of the breasts, and on examination found that drops of pure blood could be expressed. The patient said that the bleeding had begun when she was five months pregnant, and she did not know that it was an unusual occurrence, and therefore had not mentioned it. During the rest of the pregnancy the phenomenon continued, and the patient suffered besides from two or three attacks of epistaxis. Two days before labor came on the bleeding ceased, but it reappeared in increased amount the day after. The patient was very anxious to nurse the child, but as it drew nothing but blood this had to be put a stop to. On the seventh day the color of the secretion began to change, and by the eighth it had all the characters of ordinary colostrum. The child was then allowed to take the breast, and nothing further abnormal was observed. It should be mentioned that the woman was perfectly healthy; there were no traces of gout, hæmorrhoids, cancer, or of hemorrhagic diathesis.—*The Lancet.*

The Treatment of Gonorrhœa by Salol.—Dr. Lane says that for some time past he has been prescribing salol in the out-patient department of the London Lock Hospital, and has now tested its value in urethral discharges at all stages, in some cases relying solely on its use, and in others employing an astringent injection in addition. An analysis of fifty cases in which he used this drug shows that six were cured, twenty-four showed considerable improvement, and fifteen no change whatever; while in five cases the symptoms were aggravated (*The Lancet.*) The doses ranged from 5 to 30 grains daily, the beneficial effects when present manifesting themselves in a very short time. When improvement takes place the symptoms show abatement in from two to seven days; in acute cases the painful micturition is alleviated early; in cases of a more chronic nature the discharge is materially lessened in this time. The author employed an injection in ten cases in conjunction with salol, the drug then being given in 5-grain doses. Subsequently Mr. Lane increased the dose to 10, 20, and, in some cases, 30 grains, and relied upon its internal administration without the assistance of injections. Out of forty cases so treated an improvement was noticed in twenty within a week, while six were completely cured. Salol is not a mechanical mixture of carbolic and salicylic acids, but appears to be a compound of the nature of an ethereal salt, since phenol can, with some slight difficulty, be obtained from it on saponification. The potassium salt left after the treatment of salol with caustic potash gives, with hydrochloric acid, an acid which is either salicylic or one of its isomers. Four hours after administration by the mouth of 20 grains of salol, traces of carbolic and distinct evidences of salicylic acids, combined with other elements, were found in the urine. In one case the urine was blackened as in carboluria, the patient at that time taking 30 grains three times a day. The effect of salol is apparently produced by the action of the urine upon the inflamed urethra, since that fluid contains salicylates and sulphocarbolates. It may be given in doses of from 10 to 20 grains three times a day at any stage of the disease, and in chronic cases an astringent injection will materially hasten the cure. The effect does not appear to be enhanced by larger doses than 20 grains. When the amount was increased to 30 grains the urine became blackened, and the symptoms did not show any proportionate improvement. The author commenced his experiments by giving 5-grain doses, and in all probability his tables would have been much more favorable had he administered the drug with a freer hand.

Acute Tubercle of Joints.—Miliary tubercle of the synovial membrane of joints is of fairly common occurrence, but as a solitary affection is very rare. Dr. Chamarro describes this condition as acute tubercular hydrarthrosis. He defines it as an eruption of miliary tubercles, accompanied by a copious serous effusion, in the synovial membrane of a joint hitherto healthy, but in a tubercular subject. This complaint was first described by Laveran, in 1876, but has not been generally recognized. König, however, and some other writers, have described a similar affection in the course of acute pulmonary or general tuberculosis, in which the synovial membrane of one or more joints is attacked, causing considerable serous effusion, and in which after death well-marked miliary tubercles are found in the membrane, but inflammatory tissue changes are absent or only very slight. Dr. Chamarro has collected nine cases of the complaint he describes, and forms his conclusions upon them.

The symptoms and course are generally as follows: The patient is always the subject of tuberculosis, although this may be obscure, being occasionally situated in the urinary tract. A joint, generally the knee (very rarely more than one joint), which has hitherto been healthy, becomes swollen without any apparent cause. The swelling appears very quickly, rising within a few hours, very often in the course of a night. There is generally a considerable amount of pain, especially if the effusion be considerable. The signs of fluid are well marked, and there is often an œdematous condition of the cutaneous coverings. Pressure on the capsule of the joint causes great pain, but none is produced by pressing the articular surfaces together, thus distinguishing it from a tubercular affection of the bones. Absorption of the fluid occurs in from ten to thirty days, and a complete cure may follow; usually, however, a permanent thickening remains, not to be distinguished from "white swelling," or "gelatinous," or "pulpy degeneration." In the cases described by Chamarro, two recovered and two lapsed into a chronic state; the life of one of these patients was saved by amputation through the thigh, the other eventually died. The remaining five patients died, shortly after the acute joint affection set in, of tuberculosis of the lungs or meningitis. In all these five cases at the necropsies there was pronounced miliary tuberculosis of the synovial membrane of the joint affected; but there were no, or very slight, inflammatory changes in the subsynovial tissues, and the cartilages and bones were entirely unaffected. Giant cells were never found. The recognition of this condition Chamarro rightly thinks is of great importance, for such swelling may be diagnosed as gonorrhœal, or due to acute rheumatism; the discovery of a tubercular affection in the lungs or elsewhere would correct this error. The thickening of the capsule occurs early, and must be carefully watched for. The pain is not usually so great as in other joint affections. As regards the treatment, Chamarro recommends rest, leeches to the affected joint, painting with iodine, and blisters. He suggests that the capsule might be punctured and the joint washed out with antiseptic fluid.—*The Lancet.*

Partial Resection of the Liver.—Dr. Vohtz has recorded this case: A woman, aged twenty-one, had observed a tumor in the abdomen for some nine years. This had rapidly increased in size after a second confinement, eleven months before. There was found a sphere-like, smooth, and tensely fluctuating tumor extending below a line drawn from one iliac spine to another, and above not to be separated from the liver. It was the size of a child's head, easily displaceable to either side or upward, and but little downward. It had no connection with the sexual organs. It was diagnosed as an omental tumor, on account of its great mobility, and laparotomy commenced, when an echinococcus, occupying the lower and posterior surface of the liver, was revealed. It was excised, and with it a part of the greatly atrophied hepatic tissue was removed. The large and not greatly bleeding wound was united by a strong continuous suture, so that a crest-like elevation was the result, and the abdominal wound was closed. Recovery was uneventful, excepting a slight increase of temperature during the first days after the operation.—*Annals of Surgery.*

Pharyngitis Ulcerosa Lateralis.—Dr. Heryng has made a communication on a new pharyngeal disease, which he proposes to term pharyngitis ulcerosa lateralis, or ulcus ovale pharyngis, while some colleagues of his suggest the name ulcus Heryngi. As the author's observations of nine years' duration have established, the affection is characterized by the appearance on the lateral pharyngeal walls of painless, invariably oval, gray ulcers, measuring 1 ctm. in length, and from 0.5 to 0.7 in breadth, and surrounded by a congested zone. They are preceded by fever and malaise, which subside in two days, while the ulcers heal in ten days, without leaving any visible scars. The pathogenesis remains yet obscure. Drs. Heryng and Odo Bujwid, succeeded in isolating from the discharge two species of microbes, one of which proved to be the ordinary streptococcus of erysipelas, the other being a new variety described by Dr. Bujwid as a streptococcus variegatus. The inoculation experiments on animals (rabbits, guinea-pigs, and mice), however, gave negative results.—*The Provincial Medical Journal.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, August 23, 1890.

THE RAPID HEART.

A CLINICAL study of tachycardia has been published by Dr. A. E. Sansom, who chose this title for the recent "Annual Oration of the Medical Society of London." The author aptly remarks at the outset that there are very few members of our profession, whatever their line of practice, who have not been occasionally perplexed concerning cases manifesting disturbances of the normal action of the heart. Such perplexities have probably occurred in regard to diagnosis, prognosis, and treatment. There have been difficulties in determining whether the perturbations witnessed were due to, or were the disposing causes of, organic heart disease. There have been dangers of overestimating and of unduly depreciating the signs of disturbance; so in the one case the anxieties of the patients and their friends may have been rendered needlessly acute, and in the other a delusive optimism may have been rudely checked by the fatal logic of events. And certainly, with reference to questions of the therapeutics of such disorders, it cannot be said that science is yet satisfied.

Dr. Sansom has limited his remarks to that form of disturbance in which the heart's action is morbidly accelerated, or, at any rate, in which such acceleration is the chief feature. The effects of fever, the influence of certain germs, of anæmia or hemorrhage, the operation of poisons, and even those cases which have been described as "paroxysmal hurry of the heart," are not included in his present inquiry.

He considers the average rate of the cardiac cycles in the healthy male as 72, and in the healthy female as 80 per minute, in the recumbent posture, in each case. In the erect position these rates may be raised to 80 and 90, respectively. Seeing that very slight causes may tend to some acceleration, it can scarcely be affirmed that a heart-rate of 90 in the adult is of necessity abnormal. But a rate of cardiac pulsations observed under varying conditions to be over 90 errs on the morbid side, and requires some explanation of its morbid frequency.

Allusion is made to the familiar fact that the cardiac pulsations of the child are readily excited to a high degree of frequency by causes both intrinsic and extrinsic. Rapid action may occur from such causes of peripheral irritation as worms, as well as from the multifarious conditions of indigestion, accompanied by pain. Sudden terror may induce violently perturbed and rapid action of the heart of the child. According to some observers, such terror may be the initiating cause of chorea, a disease in which the cardiac pulsations, sometimes irregular, are generally morbidly over-rapid, though such rapidity is not extreme.

The cases in which, in adult life, a long-persistent, abnormal rapidity of the heart's action have been observed may be grouped under four headings:

1. Graves's disease, or if due credit be given to everybody, "Parry-Graves-Basedow-Stokes's disease." *En passant*, Dr. Sansom suggests for this complex title the slightly less complicated designation of "cardio-vaso-motor disease."
2. The irritable heart of soldiers.
3. Rapid heart in osteo arthritis.
4. Rapid heart without notable morbid association.

Interesting illustrative instances are given of each of these categories. Dr. Sansom then says that it is clearly proved that the condition of "rapid heart" may be manifested in the subjects of organic cardiac disease, but that it may also arise and progress, or continue for considerable periods, in those in whom no form of organic cardiac disease is known to exist. The question occurs, Is the affection one of the myocardium, or of some portion or portions of the nervous system? Dr. Bristowe is of opinion that it has no special connection with cardiac disease, and that dilatation and hypertrophy of the heart, when occurring independently of valvular mischief, are the slowly developed consequences, and not the causes, of the disturbance. Dr. Samuel West, on the other hand, thinks that cases of (paroxysmal) hurry of the heart are due to an organic lesion of the muscular substance, which may be, in some cases, a form of chronic interstitial myocarditis consequent, perhaps, on rheumatic pericarditis or on syphilis, and thus related to fibroid disease of the myocardium.

Dr. Sansom's personal observations extend to seventy-five cases. These he has divided into two categories. First, those in which there was no association whatever with the recognized cardinal signs of the affection termed by him "cardio-vaso-motor disease" (Graves's disease, Basedow's disease, exophthalmic goitre). In this division are 46 cases—30 females and 16 males. Second, those in which there was an association, more or less marked, with the affection mentioned. This division included 29 cases—24 females and five males.

It is unnecessary to attempt any detailed account of these cases, but certain propositions which he places before us may be mentioned. He believes that the conditions in the two sections of cases manifesting abnormal rapidity of the heart's action are closely allied. This seems to be indicated from the points of view of etiology, consequences, and associations. In both divisions there is strong evidence of the initiating influence of psychical or physical overstrain, or of these causes combined; while in both, also, the condition may develop without such initiating influence. In the one and in the other organic disease of the heart may be manifested, though exceptionally. There seems to be no good evidence to suggest the probability that such structural disease, whether inflammatory or degenerative, is protopathic, or even initiated at a comparatively early period of the malady. On the other hand, there is much to show that it is

secondary to the nervous implication. It is clear that the impairment of the myocardium occasioning dilatation of the cavities may be temporary only in some cases.

He does not think that we should look upon the cases of rapid heart as *formes frustes* of Graves's disease; rather cases of the latter may be regarded as *formes étenaues* of the former. He should interpret the differences between one and the other as differences of extent as regards nervous implication rather than as differences of intensity. In certain cases where the heart rapidity is the only sign of circulatory disturbance the danger to life is extreme.

The signs of more extensive involvement of the nervous system are (*a*) in disturbance of the vaso motor conditions of the great arteries of the neck, whereby these manifest obvious, and perhaps painful, throbbings; (*b*) in like disturbance in the thyroid arteries, which may present dilatations and bulgings; (*c*) in similar affection of the post-orbital arteries, with perhaps such alteration in nutrition as to lead to the accumulation of superabundance of fat. It is to be noted that in the first group, in which the cardio-motor conditions were disturbed without local vaso-motor involvements, murmurs heard over the great vessels emerging from the heart were proportionately far less frequent than in the second section. It seems probable that these murmurs indicated a disturbed correlation between the heart and the arteries. The condition of marked irregularity noticed in some of the cases seems to point to a further nerve involvement. He has evidence to show that an irregularity resembling that present in some cases of Graves's disease may occur without abnormal rapidity, and without any other signs of the cardio-vaso-motor affection. Concurrently with any of the signs mentioned, or with all, there may be an implication of the motor area leading to muscular tremors, and in some cases there may be an impairment of the powers of the mind.

In his present article Dr. Sansom says nothing about the treatment of these disturbances. He only states in a general way that the mild cases were amenable to the influence of ordinary drugs, while the more severe ones proved quite rebellious. Galvanism applied to the nerves of the neck appeared to be beneficial in numerous instances. While it cannot be said that the problems suggested have been solved by the author, his study will be read with interest by all physicians who have to treat true or imaginary cardiac disease.

KRAUROSIS VULVÆ.

In 1885 Breisky brought to the attention of the profession a condition of the female pudenda, which, although not infrequent in its occurrence, seemed so far to have escaped description.

His communication related to eighteen cases which had come to his notice, four of which were described in full, and the remaining fourteen simply enumerated, with the remark that they resembled the others closely. The condition as described by him was one of atrophy of the integument of the external genitals. It was characterized by the presence of more or less extensive patches of shrunken, tense, pearly-white skin or mucous membrane, occupying the upper or lower part of the vulva, the vestibule, or the lower part of the vagina. These patches were sometimes covered with a tenacious secretion, and very sensitive to the touch. When the upper part of the vulva was affected, the skin of the adjacent parts of the mons veneris was dry, pale gray, shining, and provided with few sebaceous glands. The labia minora were very faintly marked and easily effaced by separation of the parts. The prepuce of the clitoris was atrophied and tense, the vagina was narrowed. The mucous membrane of these parts was white, tense, and easily torn. Various disorders were present in different cases, as leucorrhœa, menorrhagia, and pruritus vulvæ.

In 1888 Janovsky published an account of six cases in which a condition of the parts very similar to that already described was present. In these cases certain portions of the altered integument were not thinned like the rest, but opaque and much thickened, appearing like islets in the atrophied surface. Of these six patients two had syphilis and four gonorrhœa.

In 1875 Dr. Weir reported, under the title of "Ichthyosis of the Vulva," a case in which a patch of a pearly-blue color extended from the fourchette over each labium minus. The tissues were thickened, very sensitive to the touch, and covered by a tenacious secretion. Later, epithelioma of the vulva appeared.

In the *New Orleans Medical and Surgical Journal*, March, 1890, Dr. Ohmann-Dumesnil presents a careful review of these cases, and gives an account of ten other cases as yet unpublished, three of which were seen by himself, and the others by his correspondents. In four of these, related by Dr. Heitzmann, parchment-like or horny patches were observed upon different parts of the pudenda, but their color was not noticed, and apparently no extensive atrophy of the adjacent parts was present. In the others, including those seen by Dr. Ohmann-Dumesnil, marked atrophy of the integument was present, and in one or two cases islets of thickened tissue were observed. Pruritus was frequently noted.

The cause of Kraurosis vulvæ still remains unknown. Although in several of the cases irritating conditions were observed, as leucorrhœa, ulceration, irritation from scratching, etc., yet in most of them no such possible cause was apparent. A few of the patients had syphilis, but the disorder did not seem directly due to this disease.

Analogy with certain forms of atrophy of the skin occurring in other parts of the body would suggest that the disorder began as a hypertrophy of the mucous membrane, with mild inflammation and œdema, as in the cases observed by Heitzmann, and that the atrophy, with thinning and tension and effacement of the mucous folds of the labia and clitoris, was a later stage of the same process.

The results of treatment would seem to agree with this supposition, for while the cases of Heitzmann were greatly benefited by treatment, those in which atrophy was clearly marked were not benefited by treatment, or were evidently so far advanced that no treatment was instituted.

Again, if this supposition be correct, the physician ought to be on his guard, and to adopt vigorous measures while the disorder is still in its early hypertrophic stages, seeking by means of repeated curetting, or by the application of lotions of salicylic acid, pyrogallic acid, acetic acid, or Monsel's solution, to destroy the hypertrophied tissues.

THE ECLECTICS.

THE establishment of an Eclectic State Board of Medical Examiners lends some renewed interest to the question, which is often asked, as to what is medical eclecticism. A body of men who assert that they are not simply physicians, but eclectic physicians, must be supposed to use the term in some special and technical sense; for regular or rational medicine is essentially and necessarily eclectic in that it seeks by all legitimate methods to find out the nature, the causes, and the remedies of disease. Eclectic medicine does not, or has not, as everyone knows, stood for any such broad and catholic principles.

There were in 1888 nine eclectic colleges in this country, with 743 students and 220 graduates. In the regular schools there were at the same time 11,172 students and 3,145 graduates. The great majority of the schools and students of eclecticism (538 out of 743), were in the Western States—Illinois, Iowa, and Ohio. In New York there is but one school, which graduated, in 1888, 11 students as against over five hundred graduated by the regular schools. At a low estimate, therefore, the number of eclectic graduates in this State cannot be much more than one-fiftieth of the number of regular physicians. And it would be safe to estimate the number of eclectic physicians in New York State at not over one hundred, while there are considerably over three thousand regular physicians. Yet this small band of eclectics is given a State Board and power to license men and women as physicians.

So much for the numerical status of eclecticism. We may now ask: What does "eclectic" medicine, in its technical sense, mean? Fortunately this question has been recently answered by an eclectic himself, the late Dr. Lemon T. Beam, in an earnest address which is published in the *Medical Tribune*, an eclectic medical journal.

The term eclecticism means something besides "choosing the best;" it has, says Dr. Beam, a peculiar significance. "Choosing the best" is to be done "by a certain rule deduced from a radical and distinctive principle," which makes eclectic practice distinctive.

"Disease," says Dr. Beam, "we hold to be impaired vitality and consequent derangement of function. We deduce the *rule* that in disease the body does not require depression or depletion, but rather enforcement or re-enforcement, and this of such nature and quantity as will be sufficient to permit nature herself to carry forward the work of recovery. Added to this is a disposition to investigate, prove, and select that which best serves our purposes."

Eclecticism, according to this, is a system of medical practice based upon the principle of choosing the best remedies in accordance with the theory that disease is impaired vitality.

This sounds well enough, but upon a little examination it will quickly appear that it is blatant nonsense. Syphilis may be a disease in which the vitality is impaired, but if syphilis were treated purely upon this theory the results would be sad enough. The same may be said of many, if not most, other diseases. If eclecticism is based upon this "radical and distinctive principle," as Dr. Beam calls it, the system deserves not even contemptuous notice.

Dr. Beam, however, soon branches off into the "essentials and ethics" of eclecticism, and here he shows what, as a matter of fact, eclectic practitioners do more or less represent.

This consists in a spirit of opposition to all modes of regulating medical practice, and to all submission to special codes of medical ethics. Eclecticism would give every man a chance to doctor his fellow-man, and would give the fellow-man a chance to consult every possible kind of a doctor, from mind-curer to itinerant quack. Dr. Beam is especially severe against the American Code of Medical Ethics, and against all cliques, trusts, prejudice, tyranny, trades-unions, etc. In the sentiments which he expresses, with great fervor and undoubted honesty of feeling, there breathes throughout a spirit of intense antagonism to everything in the nature of code or regulation.

Admitting all the tremendous abuses and dangers about which Dr. Beam writes, it is evident that antagonism to them is hardly the principle on which a school of medicine is to be founded. If eclecticism embodies this spirit it is a school of medical politics, not of the practice of medicine. And we suspect that modern eclecticism represents only a set of men who have peculiar opinions about medical polity.

The question as to the value and truth of their opinions is one which involves a discussion of the whole subject of higher medical education, and its supervision, more or less, by the State. The conclusions of the vast body of disinterested and intelligent men who have studied the matter are on the side of some such State supervision as will help to prevent the people from becoming the victims of ignorance and quackery.

There is no place for a special school of eclecticism such as we have described, and such as its own members claim it to be. It will gradually die out, as it is, we believe, already doing. Meanwhile its influence is not especially bad, and numerically it is too weak to block seriously the progress of sounder education and more rational medicine.

A NEW BLOOD-CELL.

THE blood is the Central Africa of pathological anatomists and physiologists. Every now and then some new explorer dives figuratively into its mysterious depths and returns with some new corpuscle, or granule or parasite. The trophies brought back by these adventurers often match very well the hopeless barrenness of an equatorial possession. We recall the ridiculous yeast-spores of Salisbury, the new colorless cells of Norris, the crystals, granules, crenated cells, and hypothetical micro-organisms of other ambitious and enthusiastic discoverers.

Despite many mistakes and misadventures, however, our knowledge of the physiology and pathology of the blood is steadily advancing, and we have read with much interest a recent original contribution to the subject by Dr. Alexander Edington, of Edinburgh. This gentleman, who is a surgeon and a bacteriologist, has been studying the morphology of the blood by the help of certain stains. The methods employed were to seal a drop of fresh blood under a cover (adding sometimes a drop of staining fluid), and the ordinary dried-film method. The stains used

were the aniline dyes, especially dahlia. By means of these methods Dr. Edington was able to make out the shape and number of the nuclei of the white blood-cells, the changes in the cells in different stages of development, and certain peculiarities in their structure. He also believes that he has discovered a new corpuscle. He has introduced a number of new terms to designate the forms which he describes.

The following represent the results of Dr. Edington's discoveries and views: He finds that the white blood-corpuscles contain, in their simpler and earlier stages of development one, or, at most, two nuclei. After a time four nuclei appear. These nuclei at last discharge themselves and form free nuclei or daughter nuclei. Some of these develop into white blood-corpuscles again, while others go to form a multi-nucleated cell, also of the nature of a white blood-cell, but having peculiar functions. This cell is called a matricyte. The matricyte swells up, discharges its many nuclei, which now form what is called an "albocyte." The "albocyte" is Dr. Edington's new blood-cell. It is a small, spherical, colorless cell having about one-third the diameter of the red cell, *i.e.*, 1 μ to 4 μ. These cells gradually enlarge, take up hæmoglobin, and assume the biconcave shape of the fully developed red blood-cell. The latter cell is believed to have a very thin enclosing membrane. The albocyte is not identical with the hæmatoblasts of Hayem. These latter structures are composed of granular material originating from the white blood-cell, and they, together with the white cell, are concerned, as Hayem states, in the formation of fibrin.

We have now, according to Edington, in the blood, 1, the white blood-cell and its daughter nuclei; 2, the matricyte; 3, the albocyte; 4, the red blood-cell; and, 5, the granular bodies known as hæmatoblasts.

Dr. Edington's observations are illustrated by a large number of careful drawings and by a full description of his *technique*. He is, we believe, one of the first to make an elaborate study of the blood with the help of modern staining methods, and his researches demand attention from their novelty and the importance of his conclusions.

News of the Week.

State Society Meetings are not Popular.—Ohio has over five thousand doctors. About one hundred were at the late meeting of its State Medical Society. Georgia has two thousand doctors. Eighty were at the last annual meeting of the State Medical Society. New York has probably ten thousand doctors. The attendance at the State Society meetings is never counted in more than the hundreds. Perhaps if the meetings were held only once in five years the attendance would increase. But then, perhaps, the length of the papers would too. Annual meetings with a slim attendance seem preferable.

Gambrinus in Britain.—A German "Biergarten," at the recent meeting of the British Medical Association, is said to have been highly appreciated by the two thousand guests who were in attendance.

Surgeon-General Gordon states that tropical Africa cannot be colonized by the English race.

The Third International Shorthand Congress took place this year, from August 7th to 17th, at Munich, and the centenary of the birth of F. X. Gabelsberger, the founder of German shorthand, was celebrated in conjunction with it. A gigantic bronze statue was unveiled in honor of the inventor.

The Swiss in Favor of Intubation.—The *Correspondenzblatt für Schweizer Aerzte*, of August 1, 1890, says that reliable figures show that this operation is not to be discarded for merely theoretical reasonings. This is a hint for Germany, where the method in question has but few friends, owing doubtless to its American origin.

Proposed New Leper Asylum for Calcutta.—As the existing asylum is inconveniently situated, the Bengal Government has appointed a committee to consider the question of a new leper asylum for Calcutta. According to the last census there were 387 lepers in Calcutta, but it is supposed the number is now much larger.

The Admission of Female Students to the Johns Hopkins University.—American women have taken advantage of the poverty of the Johns Hopkins Hospital to make a bargain with the authorities which should be to the benefit of all. The somewhat straitened financial condition of that institution suggested the possibility of contributing to its relief, and at the same time hastening the establishment of a medical school in which the benefits of the highest medical training shall be afforded to women. To this end they propose to raise the sum of $200,000, which is to be given to the trustees on the distinct condition that women, whose previous training has been equivalent to that of an ordinary preliminary medical course, shall be admitted to the institution on precisely the same terms as men. Committees are at work in six of the principal cities, including Boston and San Francisco, and considerable contributions have already been made to the furtherance of the movement.—*The Hospital.*

Physiology of Electrical Currents.—Recent experiments on the physiological effects of the electric current lead to the belief that a continuous current causes death by a direct action on the substance of the heart, and death by an intermittent current is due to the alteration of the nerves and the inhibitory mechanism of the heart

Another School of Medicine for England.—It is reported that the Court of Governors of the University College of South Wales and Monmouthshire have recently adopted a proposal to establish a department of medical science in connection with the institution under their charge.

A Proof in Black and White.—When a woman conceives and has twins, one being white and the other a negro, it is evident that the fact of superfœtation has been proved in black and white.

Something to be Proud of.—It seems that Dr. John M. Crawford, Consul-general of the United States at St. Petersburg, has made a great hit with the royal household. The Czarina, who had heard of his translation of the epic poem of Finland, "The Kalevala," invited him to the palace. She actually had some conversation with him. To cap the climax, she graciously requested him to present her with a copy of the translated epic. Thus doth royalty bestow inexpensive favors on the sons of a great republic.

The American Rhinological Association will meet at Louisville, Ky., October 6, 7, 8, 1890.

The Newly Appointed Leprosy Commission is to consist of three persons, a nominee of the Royal College of Surgeons, one of the Royal College of Physicians, and a member of the present Leprosy Committee.

Dr. Lomax, a venerable physician of Indiana, has given real estate worth from $75,000 to $100,000 to the Indiana Medical College at Indianapolis.

It is Reported that Mrs. Ayer, whose husband made some money in the patent medicine business, proposes to erect a three million dollar hospital for consumptives in New York.

Mississippi Valley Medical Association.—The seventeenth annual session of the Mississippi Valley Medical Association will be held at Louisville, Ky., Oct. 3–10, 1890. Gentlemen wishing to read papers will send titles to the Secretary, Dr. E. S. McKee, 57 W. Seventh Street, Cincinnati.

Death of Dr. J. A. Allen.—Dr. J. Adams Allen, Dean of Rush Medical College, Chicago, is dead. He was sixty-five years of age.

Pyoktanin is said to be useless by Dr. Kölliker, of Strassburg. Dr. Braunschweig calls attention to the disagreeable symptoms of irritation which are produced, and to the small degree of success he obtained with it. Dr. Barclay, on the other hand (as will be seen by referring to p. 221 of this issue), records several cases of its successful use.

Famine Fever, which means typhus fever following in the wake of famine, has appeared in Ireland. The crops are ruined.

The Ontario Medical Society. — The tenth annual meeting of this association was held at Toronto, Dr. J. A. Temple, of Toronto, president. About two hundred and fifty members were present. The president's address contained a strong plea for a uniform license in the Dominion.

A University for Nantes is contemplated, to supply the needs of Western France.

An Unpleasant Predicament.—A Paris correspondent states that the Montpellier municipality has resigned on account of the Government having half-promised a medical faculty to Marseilles. The result is that marriages are at a standstill, there being no mayor to officiate.

Plutocracy and Small Families.—It is reported that a recent census of Fifth Avenue has established the fact that the average number of children to each family is a fraction of—one. We doubt the accuracy of this statement. But it is quite true that the rich, as a rule, beget much smaller families than the poor. Misery loves company. Wealth is circumspect, and knows how to thwart nature.

Is the British Medical Association in Decadence?—The *Hospital Gazette* says that, in connection with the late meeting at Birmingham, one circumstance has been the subject of much comment, and that is the almost entire absence of the "leaders of the profession." Time was when the chief hospital physicians and surgeons of London, Edinburgh, and Dublin attended the meetings of the Association, but of late years they have attended in fewer numbers, and this year they appear to have "boycotted" the meeting altogether. Since last year sixty-seven metropolitan members, mostly consulting physicians and surgeons, resigned in a body on account of their dissatisfaction with the editing of the *Journal*, and this appears to have shaken the Association more than might have been expected. A few more such blows and the Association would crumble to pieces.

An Incorrect Secretary.—Dr. Lassar, the Secretary of the International Medical Congress, is said to have left Berlin for New York to escape the consequences of his rudeness while conducting the Empress through the exhibition. Besides this, his official statements at the last meeting of the Congress now prove to be incorrect. The delinquent doctor's friends excuse him on the ground that his nerves are overstrung, and that, therefore, he is not responsible for his actions.

Cholera Extending.—The latest information about cholera is to the effect that it has continued to advance. Some cases are said to have appeared at Cairo. It has also been carried to London. It continues its ravages in Spain, Russia, and along the shores of the Red Sea. *The Times* says that the English might improve the sanitary condition of India, and it is their duty to do more than they have done, or have sought to do, there. It should not be expected, however, that sanitary progress will be perceptible in the "home of cholera," except so far as the army and the foreign residents are concerned. But if in India the almost incredible pollution of streams and reservoirs and tanks, and the other pestilential practices of the wretched inhabitants cannot be prevented, it is possible for the nations of Europe to unite in guarding the paths that lead from India to the Mediterranean. It is possible for them to exercise a police power over the ports on the Persian Gulf and the Red Sea, and over the traffic in those waters. It is possible for them to establish and maintain throughout the approaches to the Mediterranean a quarantine or a system of sanitary inspection that would afford protection. The cost of such a system would be very small in comparison with the pecuniary loss caused by cholera in Europe since 1884.

Treatment of Hydatid Cysts.—At the recent Intercolonial Medical Congress a prolonged discussion on this subject was held. The *Australian Medical Journal* sums up the result as follows: "It would probably be generally accepted that movable omental hydatid cysts should be removed by laparotomy. Cysts projecting from the substance of the liver, and well in contact with the abdominal parietes, may be tapped. If a large amount of fluid be evacuated, and the cyst appear to be acephalous, await the result; if it appear to contain many daughter cysts, perform either Fitzgerald's or Lindemann's operation. The former will probably be preferred by the general practitioner in the country, the latter will be regarded as safer and more certain by most hospital surgeons. The treatment of cysts on the upper surface of the liver, and of all deeply placed and obscure cysts, is yet unsettled, and requires further experience; but so far laparotomy, if only for exploratory purposes, seems advisable. This is about the way hydatids are treated outside of Australia."

Reviews and Notices of Books.

LEÇONS DE GYNÉCOLOGIE OPÉRATOIRE. Par VULLIET, Professeur à la Faculté de Médecine de Genève, Ex-Chirurgien de la Maternité, etc., et Lutaud, Professeur libre de Gynécologie à l'Ecole pratique, Médecin adjoint de Saint-Lazare, etc. Deuxième édition entièrement refondue. Avec 200 Figures intercalées dans le Texte. Pp. 500. Paris: A. Maloine, Libraire-Éditeur, 91 Boulevard Saint-Germain. 1890.

THESE lectures are preceded by a short introductory chapter, which, with the two following ones on pelvic examination, might have been omitted without detracting from the value of the work. This criticism applies to all of the manuals on operative gynecology now extant, in which there is an unnecessary amount of detail with regard to pelvic anatomy and the ordinary methods of examination, with which it may be assumed that every advanced student should be familiar before he essays to master the details of gynecological operations. With true French prolixity the authors devote an entire lecture to the sound, entering into details which only tend to confuse the beginner. Vulliet's method of dilatation is clearly described and illustrated. The fifth chapter is devoted to the subject of artificial prolapse of the uterus, the sixth to curetting. With the latter we really begin the subject of surgical gynecology, the first hundred pages being purely introductory. We approach the chapter on Emmet's operation with no little curiosity, since foreign writers usually make a lamentable failure in their efforts to describe its details. The present description is no exception to the rule. The "uterine tourniquet" is ancient history. None of the present generation of gynecologists has even seen or heard of it, and its inventor rarely used it. Hemorrhage during operations on the cervix is a bugbear which vanished long since. Two lessons are devoted to the palliative and surgical treatment of fibroid polypi. The eleventh includes a valuable *résumé* of the principles and practice of pelvic massage. The twelfth to the fourteenth (inclusive) treat of cancer of the uterus, including the details of vaginal hysterectomy. The two following lectures are a little out of place in a surgical manual, since they deal with displacements and pessaries. The eighteenth is one of the most interesting, as it contains descriptions of the Alexander-Adams operation and hysterorrhaphy; the twentieth is the longest of all (fifty pages), and deals thoroughly with the subject of colpo-perineorrhaphy. Sterility, its causes and treatment, receives a disproportionate amount of attention, since no less than five chapters, or one hundred pages, are devoted to it. This subject (the consideration of which is unquestionably proper and necessary in its place) is a favorite one with our French *confrères*, who in their public lectures and writings handle it with a freedom and attention to prurient details which would be regarded as little short of indecent by an English-speaking audience. For example, the interesting conversation reported on pages 408 and 409 seems strangely out of place in a surgical monograph. We believe in "giving the imagination some chance." Artificial impregnation is the delicate theme which concludes the volume; it is hardly necessary to add that it is "handled without gloves."

To summarize, this manual contains much that is useful and interesting, but a good deal of matter that only acts as so much padding to a form that is already sufficiently rotund. The omission of at least two things of the subject-matter, and the condensation of the remainder, would render the book a really practical one; but in its present form it can only be of value to French students, who are probably accustomed to reading a page in order to acquire information which might have been condensed into a single sentence. On the other hand, many of the descriptions of operations are fresh and graphic, and not a few of the illustrations are excellent. The absence of an ndex is to be deplored.

THE SUPPRESSION OF CONSUMPTION. By G. W. HAMBLETON, M.D. New York: N. D. C. Hodges.

THIS is one of a series of monographs on scientific matters of general interest, entitled "Fact and Theory Papers." The author takes the ground that consumption is the "direct result of the reduction of the breathing surface of the lungs below a certain point in proportion to the remainder of the body, and is solely produced by conditions that tend to reduce the breathing capacity." For treatment he advocates out-door living and exercises to develop the chest.

ESSENTIALS OF EXAMINATION OF URINE. By LAWRENCE WOLFF, M.D. Saunders's Question Compends.

A GOOD manual for students to begin with, but too meagre for any other purpose. Contains nothing essentially new, but is well written, and answers categorically many of the questions beginners are sure to ask.

ESSENTIALS OF DISEASES OF THE SKIN. By HENRY W. STELWAGON, M.D. Saunders's Question Compends.

THE writer's wide experience in furnishing articles on Dermatology for other works prepares us to expect success in his present attempt to bring the leading facts of this branch of medicine down into the form of questions and answers. We are not disappointed. An immense amount of literature has been gone over and judiciously condensed by the writer's skill and experience. Where the work of preparing students' manuals is to end we cannot say, but the Saunders series, in our opinion, bears off the palm at present.

THE CLINICAL USE OF PRISMS AND THE DECENTRING OF LENSES. By ERNEST E. MADDOX, M.D. Pp. 113. London: Hamilton, Adams & Co. 1889.

AS is implied in the title, this book covers the ground of the mathematics of lenses and their practical application to clinical cases. Their geometrical and optical properties are first considered; then follow sections on marking the apex, prismetry, planeness of surface, and directions for trials of prisms. Succeeding chapters treat of decentring of lenses, localization, analysis of spectacles, etc. It is a carefully written technical book, of interest to ophthalmologists only.

DIABETES MELLITUS AND INSIPIDUS. By ANDREW H. SMITH, M.D. New York.

THESE pages of very readable facts form one of the monographs published by George S. Davis, of Detroit (1889). Especial attention is paid to the topics of prevention and treatment, and discussion concerning pathology is purposely avoided. The principal interest in a work of this kind, written by such a well-known practitioner as Dr. Smith, centres around the recitals of his own experience, and this, again, chiefly with reference to matters medicinal, for all authors practically agree on hygienic and dietetic points. The writer highly extols saccharin as a dietetic substitute for sugar. He believes that morphine will unquestionably diminish both the polyuria and glycosuria, but it should be given only in the first stage, and again in the very late stage when the system is overtaxed by the sugar formation and it becomes justifiable to incur a less danger to avert a greater. He has not used antipyrin, but regards the clinical evidence in its favor as very strong. Clemens's solution has worked well. The whole chapter on treatment is a well-arranged digest of accumulated knowledge.

LES INSECTES VÉSICANTS. Par Professeur H. BEAUREGARD. Avec 34 Planches et 44 Figures dans le Texte. Paris: Félix Alcan, Éditeur. 1890.

THIS is a large volume, giving a complete history of the vesicating insects, their anatomy, physiology, pharmacology, zoölogy, development, and classification. It is a work indispensable to students of materia medica and pharmacology, as well as of natural history.

CONTRIBUTION À L'ÉTUDE DE LA SYRINGOMYÉLIE. Par le DOCTEUR T. BRUHL. 1 vol. 8vo, 221 pages, with 12 Illustrations. Paris: Progrès Médical.

SYRINGOMYÉLIE is a very rare affection, but one which has attracted much attention of late. Good monographs have appeared on the subject in Germany and in France. Roth has made a valuable contribution to the subject. Bruhl brings the subject down to date, and adds some hitherto unreported cases.

ESSAI CRITIQUE SUR L'INTOXICATION CHRONIQUE PAR LA MORPHINE ET SUR SES DIVERSES FORMES. Par le DOCTEUR REGNIER. 1 vol. 8vo, 169 pages. Paris: Progrès Médical.

DR. REGNIER has already published some useful and scholarly monographs, and the present one adds measurably to his reputation as a careful writer and experienced physician. He dwells especially upon the importance of preventing the morphine habit by the regulation of the sale of the drug, and by care on the part of physicians. The monograph contains a large amount of interesting clinical matter.

STRICTURE OF THE MALE URETHRA: ITS RADICAL CURE. By FESSENDEN N. OTIS, M.D., New York, late Clinical Professor Genito-urinary Diseases in the New York College of Physicians and Surgeons. 8vo. Pp. 352. New York: G. P. Putnam's Sons.

INASMUCH as the book bears the imprint 1878 we are not led to look for anything new. Dr. Otis's views have been too long before the public to need any recital here. The volume is somewhat interesting historically, as it gives, in full, the various papers read at different times by the author before different societies, and, as well, the ensuing discussions by our leading surgeons, some of whom are already dead. The historian of dilating urethrotomy will have to rely much on the information here given.

DISEASES OF WOMEN. By CHARLES H. MAY, M.D. Second edition, revised by LEONARD S. RAU, M.D., Attending Gynecologist to Harlem Hospital, etc. Pp. 373. Philadelphia: Lea Brothers & Co. 1890.

THE first edition was published five years ago as a concise manual for students and practitioners. No originality was claimed. It purported to be a *résumé* of current teaching of our leading gynecologists, with a local tinge from the instruction given in this branch at the New York College of Physicians and Surgeons. In this second edition the chapters on "Methods of Examination" and "Affections of the Fallopian Tubes" have been practically rewritten. New illustrations appear throughout, and a wider range of literature has been consulted. The criticism of a book of this kind is simply concerning its style and arrangement. These, in the present instance, we unhesitatingly commend. Condensation seems to have been carried to the farthest point practicable, and yet vagueness of meaning and incompleteness of statement have been avoided.

CHEMISTRY, ORGANIC AND INORGANIC. By CHARLES LOUDON BLOXAM. Seventh edition, revised and enlarged by JOHN MILLAR THOMPSON, Professor of Chemistry, King's College, and ARTHUR G. BLOXAM, Demonstrator of Chemistry, Royal Agricultural College, Cirencester. 8vo. Pp. 799. Philadelphia: P. Blakiston, Son & Co. 1890.

THIS edition brings the subject-matter up to date. Concise accounts of modern research are given in the organic division, such as Raoult's method for the determination of molecular formulæ, and Fischer and Tafel's investigations in the synthesis of sugars. Our present knowledge on the chemistry of vegetation is fully set forth. The portions relating to explosives have been carefully revised. The general arrangement of the subject-matter is the same as in former editions. A copious index is a valuable feature.

THE PULSE. By W. H. BROADBENT, M.D. Illustrated with 50 Sphygmographic Tracings. Pp. 307. Philadelphia: Lea Brothers & Co.

DR. BROADBENT'S little work covers a subject for which too much familiarity has bred a certain degree of indifference. We regard his book, therefore, as being a most useful one, for it gives in a simple and direct manner the methods of examining the pulse and its characteristics in various diseases. Dr. Broadbent says but little about the sphygmograph, and thinks it an instrument whose use requires much experience.

DIE ZUCKERHARNRUHR, IHRE URSACHE UND DAUERNDE HEILUNG. Von MED. DR. EMIL SCHNEE. Stuttgart Süddeutsches Verlags-Institut. 1888.

IN this short monograph on diabetes there is collected a good deal of information regarding the disease, but nothing new is given us either as regards pathology or treatment.

DE L'ACROMÉGALIE, MALADIE DE P. MARIE. Par SOUZA-LEITE, J. D. Avec 102 Figures dans le Texte. Paris: Lecrosnier et Babé, Libraires-Éditeurs. 1890.

THIS is a large book on an extremely curious and rare disease. It consists chiefly of a compilation of the previous writings of Marie describing his cases. The author adopts the French custom of naming the disease after its early describer. The practice is begotten of vanity, and is unscientific and cumbersome. With all respect to M. Marie, we hope that acromegaly will not be known as "Marie's Disease."

STORIES OF A COUNTRY DOCTOR. By WILLIS P. KING, M.D. With Illustrations by T. A. Fitzgerald. Pp. 397. Kansas City, Mo.: Hudson Kimberly Publishing Company. 1890.

DR. KING'S book deals with the experiences of a country practitioner in the West. The first chapters describe many interesting phases of pioneer life. The latter part is a story of the odd and interesting in the everyday life of a general practitioner. Dr. King has made a really valuable contribution to the knowledge of the social life of the West as it was some years ago. His observations show him to be a man of sound sense and good feeling, as well as of thorough knowledge of the weak and the strong points of frail humanity.

Those who expect extremely funny stories will be rather disappointed. The author may have a keen sense of humor, but he hardly has the power of putting it into literature. His book is well written, however, and has the merit of being easy and interesting reading. Physicians will enjoy it because it will recall pleasantly their own ups and downs. The laity can read it with profit, too, for it will show them humanity from the doctor's stand-point, and no one has a position of better vantage than he.

THE MICROTOMIST'S VADE-MECUM: A Handbook of the Methods of Microscopic Anatomy. By ARTHUR BOLLES LEE. Second edition. 8vo, pp. 413. Philadelphia: P. Blakiston & Co. 1890.

THE "Microtomist's Vade-mecum" is announced as a second edition of a work published in 1885. It is in fact, however, so much enlarged and changed as to be practically new. The author aims to furnish, not so much a text-book for the beginner, as a manual for the working microtomist (as Mr. Lee chooses to call him). The book contains a concise account of all the known methods of preparing specimens for microscopical study. He has purposely omitted bacteriological technique, but, on the other hand, his work is adapted not only for the human anatomist, but for students of zoölogy in general.

An examination of Mr. Lee's book convinces us that it is most complete in every way, and cannot fail to be a help to those who are desirous of keeping abreast of the times in matters of microscopical technique.

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, May 2, 1890.

FRANCIS P. KINNICUTT, M.D., PRESIDENT, IN THE CHAIR.

Progressive Muscular Atrophy.—DR. C. L. DANA presented a man, forty years of age, with Erb's type of juvenile muscular atrophy, or, as the disease was called at present, progressive muscular distrophy. The patient said that his great-uncle and father had a similar disease. In his father it began in the same way as in himself, at the age of twenty, and lasted till death, which took place at the age of forty-three. The other members of the family were healthy. The patient's disease began, without any known cause, at the age of seventeen, manifesting itself first by weakness and atrophy in the left shoulder. Then the other shoulder, then the left thigh, then the right thigh became involved, and of late years the forearms, and to some extent the legs, had become affected. The muscles of the back had not entirely escaped. The face, tongue, and all parts above the shoulder were not involved. The general health had been good, and there had been no other symptoms than the muscular atrophy. He had been able to go about his business as a carpenter until within a year or two. The symptoms were purely those of muscular atrophy, the paresis being due solely to such atrophy. There was no anæsthesia, no pain, no trouble with the bladder or rectum; the appetite was fairly good.

Dr. Dana said there were two grand groups of progressive muscular atrophy, the one of spinal, the other of muscular, origin. The atrophy beginning in the muscles was of a hereditary type, affecting families. Clinicians had made a large number of subdivisions, depending upon the group of muscles most affected. In some it began in the shoulders, constituting what had been recognized as Erb's juvenile muscular atrophy; in others it began in the face (the Landouzy-Degerine type), and still others in the lower extremities. Pseudo-muscular hypertrophy was simply another type of the same affection. The disease generally began in early life, progressed slowly; the atrophy was not associated with fibrillary twitchings, there was no reaction of degeneration as there was in muscular atrophy of spinal origin.

In the patient presented there seemed to be some pseudo-hypertrophy associated with the atrophy, manifest in the calves of the legs. The pectoral muscles seemed somewhat atrophied, but the patient was able to greatly expand the chest, showing that the intercostal muscles had not been affected. Usually the female line was affected in this disease. The patient was able to trace his ancestry back some distance, through an American history, to the English, and Dr. Dana believed that usually it was the degenerative types that were seen in Americans, while functional neuritis was more commonly imported. Replying to a question by Dr. Partridge, he said that under the microscope one found in progressive muscular distrophy wasting of the muscle and deposition of fat. Erb stated that there was sometimes enlargement of individual muscular fibres.

DR. H. M. BIGGS mentioned the case of a man, aged twenty-four years, whom he saw in the hospital last year with the pseudo-hypertrophic type of muscular atrophy. The calves and thighs were enormously enlarged, as were all the muscles, yet the man was scarcely able to ascend a pair of stairs. The disease in this case was hereditary. He had seen five or six cases of the pseudo-hypertrophic type in children.

THE PRESIDENT inquired of Dr. Dana whether it was not true that we saw the pseudo-hypertrophic type more frequently in children because the disease was hereditary, and as time elapsed it passed into the atrophic form.

DR. DANA said he thought the pseudo-hypertrophic form was pretty distinct clinically, was more common than the other, almost always began in the legs, and ran a pretty regular course.

THE PRESIDENT said that some years ago he saw a good many cases of the pseudo-hypertrophic form in children at Dr. Seguin's clinic, and he recalled that in one family three children were affected, the pseudo-hypertrophic form being present in two cases, but having given place in the older one (sixteen or seventeen years of age) to the atrophic form. It seemed to bear out the view of a mixed type. His question, repeated in another form, was, whether these cases always remained hypertrophic.

DR. DANA said he thought they died atrophic.

Large Lipoma Removed from the Region of the Mamma.—DR. R. F. WEIR presented a fatty tumor, weighing over seventeen ounces, measuring $6 \times 5 \times 1\frac{3}{4}$ inches, removed from the region of the mamma of a girl, twenty-two years of age, who had noticed it three years before. The specimen was of interest because of its rarity in this region. Gross alluded to four cases developing under the mammary gland, which was the particular situation of the tumor presented. At the suggestion of Dr. Thomas an incision was made along the edge of the mamma, the gland was lifted up, and the tumor readily enucleated. The following was the report of the pathologist:

The tumor which you removed yesterday from the mammary region of a patient at St. Luke's Hospital weighs seventeen and one-half ounces, and measures $6 \times 5 \times 1\frac{3}{4}$ inches; it has a smooth, rounded surface, is encapsulated, and in the capsule were seen distinctly some blood-vessels.

The tissue, both to gross and microscopical appearance, is adipose. Very truly yours,

JOHN S. THACHER.

Gastro-colostomy.—DR. W. M. POLK related a case of gastro-colostomy (see p. 200).

DR. WEIR inquired how far the opening in the small intestine was from the duodenum, and whether the catgut rings had been recently made.

DR. POLK replied that, as nearly as he could estimate the distance, it was ten inches. The rings had been made and pressed for about four days.

DR. WEIR had asked the first question because most surgeons who were doing gastro-colostomy now went farther from the duodenum than formerly, in order to avoid traction. The second question was prompted by the fact that the ring had twisted, which had not been usual where they were made and pressed some days before use. The patient on whom he had operated for almost the same condition present in Dr. Polk's case, except that they did not know beforehand to what the decided stenosis of the pylorus was due, was still living, and at one time had gained thirteen pounds in thirteen weeks. In doing gastro-colostomy instead of Loretta's operation he departed somewhat from the custom, but this course was now being approved by German surgeons. He asked the President what was the present condition of this patient.

THE PRESIDENT said the case was reported four or five months ago as being in very good condition; his nutrition was excellent at that time, and introduction of the stomach-tube and fluid showed that while there was dilatation of the stomach, it was not great. It had undoubtedly diminished in size since the operation. The question then arose whether this dilatation was due to the state of the stomach before the operation, or whether it was due to subsequent stenosis, and whether the stomach could ever regain its former size. Answering the last question, he said he thought it could not; that such distention as had existed in this case, extending over a period of three or four years, the stenosis being the size of a quill, could never be repaired. Two or three weeks ago the man again returned, suffering greatly from various gastric symptoms, although his nutrition had been maintained. He weighed perhaps fifty pounds more than before the

operation. He had heartburn, eructations, and the evils which go with dilatation of the stomach, and the question was whether the dilatation was due to recurrence of stenosis or to distention from some other cause. If he should not improve under lavage and careful treatment, another operation might have to be performed.

Digestion of the Catgut Ring.—It was evident, the President said, that the catgut ring had been digested, and, as Dr. Polk had stated, it could not have occurred post mortem, since the autopsy was made fifteen minutes after death. There were two points to be considered in this connection: one was that possibly there had been no associated catarrh or glandular atrophy in the stomach, in which case one might expect normal or fair secretion of gastric juice, with sufficient hydrochloric acid to serve the purposes of digestion, and which would account for digestion of the ring. But this assumption was not necessary. Since there had been stenosis, and probably accompanying catarrh, there must have been marked lactic fermentation in the stomach contents, and the lactic acid in the presence of any pepsine would be quite sufficient to digest the catgut. It required only five times as much lactic acid as hydrochloric to do the same work with pepsine.

Dr. Polk said, in closing the discussion, that he followed along the jejunum until he got hold of a portion which could easily be brought out and kept out of the abdominal wound without any difficulty whatever, so that the trouble could not have arisen from not going far enough down; there was no traction. If the anatomical difficulties could be overcome, it would be much better to make the anastomosis on the posterior wall of the stomach, but he agreed with Dr. Weir that this would be very difficult.

Ovarian Tumor, with Anæmia, and Death by Thrombosis of the Pulmonary Artery.—Dr. Clement Cleveland related the above case (see p. 207).

A Rare Cause of Death.—Dr. Beverley Robinson asked whether, inasmuch as thrombosis of the pulmonary artery was an extremely rare cause of death, this was really a case of thrombosis or one of embolism.

Dr. Cleveland again read the symptoms, which included coldness of the extremities, disappearance of the pulse, very marked dyspnœa, and anæmia, and said it was evidently a thrombus of the pulmonary artery. The artery was examined for some distance.

Dr. Draper thought the history pointed to thrombus, not to embolus. He had seen a number of cases of thrombosis of the cerebral veins, and asked Dr. Biggs whether this was not a common location.

Dr. Biggs hardly thought the cases were common. He had seen a number of instances of thrombosis of the pulmonary artery in pulmonary tuberculosis, the thrombus not connected directly with the pulmonary disease, but supposed to be due to profound anæmia and weakness of the circulation. And, replying to a question by Dr. Robinson, he said they were not cases of secondary thrombus developed on an embolus.

Dr. Robinson said that in cases of thrombus due to weakness of the circulation, we might expect to find antemortem clot in the heart, about which there had been considerable dispute.

Dr. Biggs had recently seen a case where there was thrombus of the left renal, left splenic, and left pulmonary arteries, yet there was no thrombus in the heart. The heart was very weak; there was some change in the myocardium, the muscle was flabby, but there was no valvular lesion.

Case of Intestinal Obstruction.—Dr. W. H. Draper related the history of a case of intestinal obstruction which occurred in a woman, aged twenty-eight, admitted to the hospital April 7, 1890. There was a moderate wine habit, no rheumatism; since childhood she had had attacks of abdominal pain followed by diarrhœa, apparently not preceded by constipation; no previous pulmonary, cardiac, or renal symptoms; she had borne children, denied venereal history. For three months past the attacks of abdominal pain and diarrhœa had been more frequent; had also had attacks of vomiting of food and bile. The last two weeks the pain had been constant, except when relieved by morphine. During the severe attacks the pain extended up the back. The movements had been frequent. The patient had emaciated greatly, and lost much strength during the last three months. Her stomach had been washed out daily during that length of time. For two weeks she had been in bed. When admitted the patient was emaciated, pale, cheeks flushed, eyes bright, tongue fairly clean, no appetite, bowels loose, sleep poor on account of the pain, which she located most particularly just above the umbilicus; the belly considerably distended; marked peristalsis could be seen and felt at times; pulse small and weak, 120 per minute; respiration, 28, temperature, 97.2 F.

The urine contained a trace of albumin, a few hyaline casts. During her stay in the hospital until operated upon, on April 24th, by Dr. McBurney, the paroxysms of pain recurred frequently, requiring hypodermics of morphine. Nothing could be felt by rectal examination. The belly was distended, but not greatly. The distention was below the umbilicus; above it was quite flat. The peristaltic movements, when visible, were most marked in the lower portion of the belly, and there was a large coil of gut below which led Dr. Draper to suspect it might be the colon; yet he was disposed to think, from the flatness above and only slight distention of the bowel, that it was a coil of small intestine and that the obstruction was in the small intestine. The stools were small and ribbon-shaped.

The notes from the surgical ward stated that the operation was performed under ether; usual antisepsis. Stimulation hypodermically before, during, and after the operation. An incision six inches long was made in the linea alba, with its centre a little below the umbilicus. The small intestine was found enormously distended, resembling the colon. Constriction found some distance above the ileo-cæcal valve. It was not absolute, consisted of a contracted portion of the wall of the intestine itself. It was indurated, and the peritoneal coat sloughy. It was decided to make anastomosis between the intestine above and below the constriction, extirpation of the disease being out of the question owing to the emaciation and exhaustion of the patient. The intestine was so tense that the anastomosis had to be made between portions only three inches above and below the constriction. Strips of iodoform gauze were passed through the mesentery and tied around the intestine just beyond the points at which anastomosis was to be made, to prevent escape of fæces. An incision was made into the side of the gut at each of the points named, and into each opening a catgut ring (a modification of Abbe's rings) was introduced; silk sutures passed from each segment of the ring through the wall of the intestine, half an inch from margin of the orifice. The corresponding sutures from the two rings were tied together. The iodoform constriction band was then removed, the abdominal wound closed by silk sutures, no drainage; antiseptic absorbent dressing. Duration of operation, one hour and fifteen minutes. Shock was marked, and the patient became gradually weaker and died in the evening.

A formal autopsy was not permitted. The abdominal wound was opened and thorough examination made of the small and large intestines by Dr. R. A. Sands. The rings had held firmly, and there had been no escape of fecal matter. The small intestine was still much distended. In passing down from the pyloric end of the stomach to the ileo-cæcal valve, another partial constriction, of the same general character as that found during the operation, was discovered about three feet nearer the stomach than the other. In the lower constriction the mesentery was involved; it felt hard and knotty. The upper constriction was much less complete than the lower. The appearance of the portion of gut including

the constriction was carcinomatous, but a microscopical examination had not yet been made. The uterus was found retroverted and firmly bound down by adhesions.

Peristalsis as an Indication for Exploratory Incision.—Dr. Weir thought carcinoma of the small intestine was very rare, and it was still more rare to find it in two places. Regarding peristalsis, he had been able to recognize this through the abdominal wall in a few cases of chronic obstructive character, and had about concluded it should be regarded as one of the minor indications for an exploratory incision in such cases, as indicating that one had waited sufficiently long.

Dr. Draper replied that was true, yet he had seen cases of chronic obstruction of the bowels, of moderate degree, accompanied by visible peristalsis which went on a very long time, and the patients remained tolerably comfortable. There was not always severe pain, and in some there was no pain at all. In such cases opium favored action of the bowels, he supposed, by causing relaxation. He did not mean to say that the patients finally got well.

The Value of Injections of Water and Air in Diagnosis.—Dr. Robinson raised this question, and Dr. Weir said, regarding injections of fluid, that they were useful in diagnosis where the constriction was complete. Knowing the quantity of fluid which the gut contained, the site of the constriction could be estimated in this way.

The President said, regarding injections of air, that it was claimed if the constriction were complete the air injected would escape with the foul gases contained in the gut, and if the constriction were not complete a large amount could be injected.

The Significance of Ribbon-shaped Stools.—Dr. J. D. Bryant had seen a case to-day in which the question of intestinal obstruction was raised, and it had been suggested that the presence of ribbon-shaped stools pointed to an obstruction near the sigmoid flexure. That seemed to be the general impression, yet in Dr. Draper's case the obstruction was in the small intestine. The shape of the stools was here due perhaps to scarcity of fecal matter in the lower bowel.

Dr. Draper said the colon was small, being collapsed, and he supposed the stools retained this shape because slowly passed through the collapsed large intestine.

Dr. Robinson remarked that peristalsis was not always observable in cases like the one related, and the President remarked that he had observed peristalsis of the stomach in half a dozen cases of close constriction of the pyloric orifice.

Search for more than One Constriction.—Dr. Weir said there were several cases on record in which the surgeon had closed the abdomen after relieving one intestinal obstruction, and at death another was found. It taught the importance of examining the whole intestine.

A Case of Alcoholic Cirrhosis of the Liver in a Boy, Aged Thirteen.—Dr. H. M. Biggs related the above case (see p. 206).

Dr. Biggs added that he had seen with Dr. Jenkins four cases of death from acute alcoholism in boys, one of whom was aged five, one eight, and one ten years. The history in each was practically the same; they had taken a large quantity of liquor, remained unconscious six to ten hours, and died without regaining consciousness.

Dr. Dana said he had recently analyzed nearly four thousand cases of alcoholism appearing in Bellevue Hospital during about eighteen months, with reference to age, sex, etc., and while there were cases at all ages from twelve to seventy years, yet in none had death taken place below the twentieth year.

Dr. Draper remarked that he had seen a number of cases of cirrhosis of the liver in very young subjects. Recently he had had under observation a child of three years whose case had puzzled him considerably. The physiognomy of the patient was very suggestive of cirrhosis. It was very much emaciated, very anæmic, had potbelly, marked abdominal veins, apparently a very small liver, and there was gastro-intestinal catarrh. The gastro-intestinal catarrh seemed to have been due entirely to inability to digest starchy food and milk. It was getting well on a diet of meat. The parents were gouty, but no other cause for cirrhosis.

Stated Meeting, May 23, 1890.

H. F. Walker, M.D., in the Chair.

The Prognosis of Lateral Curvature in Young Girls.—Dr. V. P. Gibney read a paper with this title (see p. 204). To illustrate practically the methods which his experience had led him to adopt for the routine treatment of lateral curvature in young girls, Dr. Gibney introduced a number of these patients, forming part of a large class now receiving special training at the Hospital for the Ruptured and Crippled. The exercises, based upon the Swedish movements, were designed to develop and accentuate the tonicity of any set of muscles indicated as required for definite support in counteracting a progressive curvature. The success of systematized muscular training was amply attested, the disease, when treated early, being in nearly every instance held in check and palpable deformity prevented.

Dr. C. L. Dana said he thought the general practitioner ought to be familiar with the accepted teachings in the treatment of these spinal troubles. It was only the other day that a patient was sent to his clinic suffering from chorea; he was also suffering from lateral curvature. A brace had been ordered and the information volunteered that unless it was worn the child would be incurably deformed. The speaker had only found a very slight curvature, and it had seemed to him that the treatment suggested was both expensive and unnecessary. Still the advice was given by a physician of large experience in such cases. Such treatment was, however, directly opposed to that of which Dr. Gibney had told them, and there seemed to exist entirely opposite views among men who were treating this class of cases.

Dr. F. P. Kinnicutt said he had seen the method advocated by Dr. Gibney carried out in one case with the most admirable results. The case had been one of grave import, so far as threatened discomfort and deformity to the patient were concerned. The method advocated was faithfully observed for a year under Dr. Gibney's instructions, with conscientious attention to detail, and the success in this case had been all that could be desired.

Dr. Whitman said the out-patient treatment of these cases at the hospital was rather a compromise. Where patients had no time to take the exercises, the practice was to put them in braces to relieve the pain and correct the deformity.

The President inquired if any arrangement could be made with any of the professional instructors in the muscular training to attend to private cases.

Dr. Gibney replied that there were in the city a few men and women engaged at this sort of work who could be trusted to carry out pretty faithfully any work given them. It must be remembered, however, that they all brought with them traditions from Stockholm, about muscles and so on, which they had learned from their professors, and no matter how they were instructed here, they were liable to drift into their own methods to the exclusion of what was required of them. It was the intention of the gentleman in conducting the classes at the hospital to establish himself in an office where he would be able to attend to private cases. They seemed to make it a *sine qua non* that the patient should be nude, but this the speaker had not allowed, as he did not believe it necessary after the initial observations of the deformity were made, at which time a course of exercises could be mapped out. In special cases the patients might be provided with tight-fitting shirts, such as were used in the application of plaster-of-Paris jackets. Replying to Dr. Dana's inquiries, he said that jackets of any kind were

detrimental in cases of lateral curvature but slightly developed. In those where the disease had advanced, and in which the ribs overhung the pelvis, braces did good service. If he found that patients did not take kindly to the exercise scheme, and it was evidently not worth while to persist in this course, he then recommended a plaster-of-Paris corset, merely to hold them where they were. As to the style of brace, he thought the Schaffer brace was a practical arrangement, and the Knight brace would also prevent the further development of the trouble; but he did not believe that the plaster-of-Paris jacket or corset would do so. If a patient wore a solid jacket or corset for a long time, thereby keeping the muscles constricted, it would be necessary to keep them developed by electricity to prevent the patients sinking more and more. In many cases the disease developed while the plaster-of-Paris jacket was crumbling. Then, to prescribe exercise one hour out of the twenty-four did not seem good in principle, and was no good in practice, because it was undoing in twenty-three hours what was effected in one.

Hemorrhage in the New-born. — DR. E. L. PARTRIDGE read a communication on this subject (see page 202).

DR. A. H. SMITH said that the only case of hemorrhage in the newly born that had come under his notice had occurred from the bowels. He would like to know if the author of the paper had found anything specially useful in the way of treatment.

DR. PARTRIDGE replied that he had never adopted any particular medication because he had no confidence in the utility of such treatment in these cases. It was his aim to stimulate the child and get it as well fed as possible.

DR. KINNICUTT said that, as he remembered Winckel's cases, there was very much to point to the theory of infection in them, as they had occurred in close succession in the same hospital and with similar symptoms. The infants had become suddenly cyanotic and had collapsed, with subnormal temperature. There had been more or less jaundice and hæmoglobinuria.

DR. PEABODY had seen cases occurring in the Sloane Maternity Hospital in which those who were attacked with Winckel's disease had died in quick succession. The idea had then occurred to him of possible septic infection.

DR. PARTRIDGE, in reply to a question, said that hæmoglobinuria had occurred in twenty-four hours. The general appearance of the children had at first attracted attention, then the jaundice, and then the hæmoglobinuria had developed.

DR. DELAFIELD said that some years ago it had been his business to make the autopsies on babies dying in Bellevue. Many of these had been born in sugar-boxes, in ash-barrels, and so on, though others were born at the hospital. He remembered being struck by the fact that so many of them had presented extravasations of blood in the interior of their bodies, sometimes in one place, and sometimes in another. He had never known what it meant, and did not know now, but the discussion had recalled the fact to his mind.

Amenities of Medical Practice in South Africa.—A native medicine-man in South Africa has just had an experience which should convey a moral to his colleagues. The favorite wife of one of the chiefs in the district was taken very ill, and the medicine-man declared that the only cure was the ingestion of fat from the human heart. The chief on looking around him concluded that the heart of the doctor was most likely to furnish the amount of fat required, and ordered him to be killed, which order was promptly obeyed, and the fat of the heart given to the afflicted chieftainess. The other parts of the body usually eaten by cannibals were, it is said, eaten by the healthy members of the chief's household. The inhuman chief has been placed under arrest by the district magistrate pending a full inquiry by the Government officials. —*Hospital Gazette.*

Correspondence.

OUR PARIS LETTER

(From our Special Correspondent.)

THE PRESENT STATUS OF SURGERY IN OPERATIVE INTERFERENCE WITH GRAVE CASES—MORPHINOMANIA—SALOL IN SORE-THROAT.

PARIS, August 1, 1890.

THE growing tendency of treating medical cases surgically, or with the knife, particularly among the French surgeons, has called forth a severe remonstrance from Dr. H. Boens, one of the leading practitioners in Brussels, who has written a long letter to the *Journal de la Santé*, of Paris, on the subject. He began by remarking that the recent progress of surgery has been a good deal overrated. Since operators have understood that cleanliness is the first essential condition for the healing of accidental or artificial wounds, and that the wounded patient, or one operated on, instead of being drenched with tisanes, as was done formerly, is now supported at an early hour by good nourishment, they obtain numerous successes and they may undertake the most daring operations. As regards the operative art in itself, it has not made sensible progress. The difficulty of our profession is not to dissect or cut up patients, to open the chest or the abdomen and to sew them up again. This mechanical surgery is within the competence of all practitioners more or less experienced. The author remarks that the real difficulty and the supreme talent of men of the art consist more in preserving than in removing organs, viscera, and tissues; and making tumors disappear by appropriate therapeutical means, rather than violently extirpating them. It is thus that a number of so-called cancers of the breast, which are generally removed at once with the bistoury or with strong caustic, may be easily cured without any painful or cutting operation in a few months. The statistics of operations carried to extremes are not very reassuring, notwithstanding the incontestable progress accomplished in the hygiene or the salubrity of hospitals and the excellent care of the patients operated on. Every now and then medical journals report that a brilliant operation, performed with all the antiseptic arsenal in vogue, and with a surgical show destined to throw dust in the eyes of the spectators, has been immediately followed by the death of the patient. In speaking of cancers of the breast, Dr. Boens observes that they would become very rare if they were properly treated as soon as puffiness or engorgement manifests itself. The same is the case with goitre. A cutting operation is far from being without danger. At a recent meeting of the Belgian Academy of Medicine, a note was read by a hospital physician of Charleroi, who expressed himself in the following terms on the subject: "Thyroidectomy is a most serious operation, which should be considered the ultimate resource susceptible of saving the patient in certain cases of stenosis of the tracheo-artery brought on by the compression of the goitre. Its indications are the most delicate to determine, and surgeons are not yet agreed as to the choice of the method to be adopted." The author of the note then criticises the divers methods, discusses their indications, and points out their dangers and their ultimate consequences. He related a recent operation, which forms the conclusion of his memoir. It concerned a young girl, of sixteen and a half years of age, who was affected with a parenchymatous goitre which became dangerous for the life of the patient; dyspnœa was intense, and fits of suffocation were often repeated. He admits that the trachea was deformed by the goitre. He rejected the idea of ante-operative tracheotomy, on account of its little utility and its well-known dangers. The operation, by the procedure of Mikulicz, which he decided upon, was performed without any difficulty. Unfortunately the patient succumbed on the following day, in a fit of suffocation caused by the flattening, unmodified, of the trachea. Dr. Boens reports a similar case in a young lady of pro-

nounced lymphatism, in whom he prevented asphyxia, which appeared imminent, by the application of leeches, and reduced the tumor in six months by medico-chirurgical treatment.

That grave operations for medical cases are not always justifiable may be seen by the following observation: About eighteen months ago a well-known surgeon practised the removal of a tumor of the brain in a patient who had suffered from attacks of unilateral epilepsy for seven or eight years. The tumor was diagnosed to be situated in the convolution of Rolando. The spot for operating on having been marked out the surgeon trephined, removing a circle of about three centimetres. He then made a crucial incision into the dura mater, which was healthy, and cutting through the pia mater he incised the brain and removed the tumor, which was about the size of a small apple. A small drainage tube was introduced, antiseptic dressings were applied, and union by first intention was obtained without a drop of pus. During the night preceding the operation there had been thirty-seven epileptic attacks. On the night following it there were only five, and five or six days afterward there were none. Coma and delirium, with which the patient was affected, disappeared toward the tenth day, the complete paralysis of the two limbs, with which he was also affected, disappeared on the fifteenth day, the limbs gradually recovered their movements, and at the end of a month the patient completely recovered consciousness. All this seems very encouraging, but I have incidentally learned that the patient is relapsing into the same condition that he was in before the operation.

At a recent meeting of the Société Médicale des Hôpitaux, Dr. Huchard made some observations on three cases of permanent albuminuria in morphinomaniacs, and he is convinced that these cases of albuminuria are developed under the influence of the abuse of morphia, and that they appear to be due to arterial hypotension. As regards treatment, the author observes that a distinction should be made between morphinism and morphinomania. The morphinomaniac is a "cerebral," and he must be treated accordingly, then seclusion is indicated. In morphinism, on the contrary, the mental state is healthy, and seclusion should never be employed.

Dr. Ruault vaunts the use of salol in sore-throats. He cites several cases of severe tonsillitis in which suppuration appeared imminent and was prevented by the internal use of naphthol. This indication of realizing intestinal antisepsy was adopted by Dr. Gouguenheim, who related at the Congress of Laryngology the happy results obtained by him in anginas with the aid of salol (salicylate of phenol). According to this physician, salol acts efficaciously in acute anginas, whatever be the cause. It calms with the greatest rapidity the pain and the dysphagia, which are the most painful symptoms of these affections. In calming the pain it may abridge the duration of suppurated phlegmonous angina. It lowers the temperature. It diminishes, in nearly all the cases, the duration of anginas. To arrive at these results the dose should not be less than four grammes.

USE OF PYOKTANIN IN EAR DISEASE.

To the Editor of the Medical Record.

Sir: The Medical Record, with its characteristic enterprise, having in the issue of July 5, 1890, pp. 7, 8, through the interesting article of Dr. Adolph Kessler, drawn the attention of the profession of this country to the new bactericide, pyoktanin, it having been already tested with success in obstetrical, venereal, general surgical, dermatological, and ophthalmological practice, it occurred to the writer that it might interest your readers to know that it has been successfully employed in otological practice as well, where it seems to possess extraordinary power to subdue suppuration of middle-ear disease.

A brief history of several recorded cases will suffice to demonstrate the possibilities of this new addition to our therapeutic resources.

Case I.—A man, aged twenty, who had been affected with intermittent otorrhœa, both sides, for some time, when about seven years of age, and who had remained noticeably deaf in the left, slightly so in the right ear after the otorrhœa had disappeared, had been recently suffering from a recurrence of the otorrhœa for about one month in the right, one week in the left ear, preceded by an acute coryza. Both ears were the seat of constant dull pain and tenderness, with autophonous voice and mephitic discharge. The otitis was complicated with chronic atrophic naso-pharyngitis, dental caries, and eruption of third molar teeth, constipation, epistaxis, nicotism, sniffing up salt water, etc.

The left membrana tympani was found perforated (about $\frac{3}{16}$ inch opening) in the anterior inferior quadrant, the anterior inferior middle third of corresponding canal wall being swollen and tender. The lower part of the right membrana tympani and the manubrium mallei were hidden from view by a soft polypus, which seemed to spring from a pedicle very close to, if not upon, the manubrium mallei. The relation of the parts making it difficult to ensnare it without including the bone, the polypus was removed with the cutting hooped curette, and was found somewhat double-lobed and about one-fourth inch in diameter. After hemorrhage had ceased, and both ears had been carefully cleansed, each was in turn filled with pyoktanin solution, 1 to 1,000, which was permitted to remain within the ear for ten minutes or more, the surplus solution being then carefully removed from the canal with a brush of absorbent cotton wool, the meatus being subsequently closed with a wad of this.

The discharge from the right ear, next day, was but slight and serous in consistency, appearing to be but what remained of the solution instilled before. There was no appreciable discharge from the left ear, the rim of the perforation of the drum-head of this ear appearing dry and cicatricial except at its anterior and inferior edge. The left canal was still swollen. There had been a slight epistaxis during the preceding night. A cleansing spray to nares, and pyoktanin solution to both ears were introduced, and an aperient prescribed. On the day following there was no visible discharge from either ear, and the right ear felt perfectly well to the patient. Aperient continued. Two days thereafter, both ears feeling comfortable, a Blake's paper disk was applied to the perforation of the left drum-head, where it has since remained. There has been no return of otorrhœa or subjective aural symptoms, and the hearing of both ears has improved.

Case II.—A youth, aged nineteen, who had suffered for four years from otitis media purulenta chronica, both sides, following excessive diving, and who had been operated on for aural polypus, was compelled to leave college because of incapacitating deafness. The disease of the left ear had been partially subdued. General anæmia, crowding, and caries of the teeth, etc., had complicated the otitis. Both ears had a mephitic discharge, and the symptoms of autophonia. There was a slight perforation of Shrapnell's membrane of the right ear. The left membrana flaccida was perforated ($\frac{1}{8}$ inch opening), the margo-tympanicus (auditory plate) melted away, and the malleo-incus visible in the tympanic attic.

The right ear was cured at once, the left almost so within four months, with the ordinary remedies. The slight discharge persisting in the left ear, with other phenomena attending aural polypoid growths, disappeared within several days after removal of a polypus, then invisible, through the perforation from the attic, by pneumatic pressure, the air being pumped from the sealed external auditory canal. The attic remained dry for one month, when on undue exposure to a draught of cool air a severe acute coryza developed and a subsequent recurrence of his otitis media, with otorrhœa, left side. After waiting one week without treatment, and the trouble increasing with progressive deafness, medical assistance was sought.

The ear having been carefully cleansed, pyoktanin solution, 1 to 1,000, was instilled into his ear for the first time, being allowed to remain there in about ten minutes, some of it having been forced into the attic through the atrium and Eustachian tube by pneumatic pressure until the air following had been heard to escape into the nasopharynx, the surplus solution then being removed from the canal with a brush of cotton wool, and the meatus subsequently closed with a wad of this. There has been since that day no evidence whatever of inflammation. It should have been previously mentioned that the patient had so far regained his hearing during the early treatment as to resume his old place at college without further embarrassment.

The preparation used in the above cases was the pyoktanin cœruleum of E. Merck, of Darmstadt, prepared in tablet form, each tablet containing 0.10 gramme pyoktanin.

Very respectfully yours,

ROBERT BARCLAY, A.M., M.D.

3811 LUCAS AVENUE, ST. LOUIS, MO

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 10 to August 16, 1890.

STEPHENSON, WILLIAM, Captain and Assistant Surgeon, now on duty at Columbus Barracks, O. By direction of the Acting Secretary of War, is assigned to temporary duty at Jefferson Barracks, Mo., during the absence on leave of Daniel G. Caldwell, Major and Surgeon, and will report accordingly. On the return to duty of Major Caldwell, Captain Stephenson will rejoin his proper station. Par. 2, S. O. 176, A. G. O., Washington, D. C., July 30, 1890.

CALDWELL, DANIEL G., Major and Surgeon. By direction of the Acting Secretary of War, granted leave of absence for one month and fifteen days, to take effect about August 15, 1890. Par. 1, S. O. 176, A. G. O., Washington, D. C., July 30, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 16, 1890.

WALES, P. S., Medical Director. Detached from Medical Examining Board and ordered to resume present duty at the Museum of Hygiene.

AMES, H. E., Passed Assistant Surgeon. Ordered as member of Medical Examining Board in addition to present duty.

SAYRE, J. S., Passed Assistant Surgeon. Detached from the Navy Yard, New York, and ordered to the Ranger.

NORTH, J. H., JR., Assistant Surgeon. Ordered to the Navy Yard, New York.

BARBER, GEORGE H., Assistant Surgeon. Detached from the Receiving Ship Vermont and ordered to the Pensacola.

VON WEDEKIND, L. L., Assistant Surgeon. Detached from the Pensacola and ordered to the Vermont.

AUZAL, E. W., Passed Assistant Surgeon. Ordered to temporary duty at the Naval Academy, to examine candidates.

FITTS, H. B., Passed Assistant Surgeon. Detached from the Pinta and ordered to proceed home and wait orders.

STONE, E. P., Passed Assistant Surgeon. Detached from the Independence and ordered to the Pinta.

WHITFIELD, J. M., Assistant Surgeon. Detached from the Monitors and ordered to the Naval Hospital, Norfolk.

AYERS, JOSEPH, Surgeon. Ordered to the Naval Academy to examine candidates for admission.

BRIGHT, GEORGE H., Surgeon. Ordered to Naval Academy to examine candidates for admission.

SMITH, GEORGE T., Assistant Surgeon. Detached from the Naval Hospital, Norfolk, and ordered to the Independence.

WHITE, S. S., Passed Assistant Surgeon. Detached from the Marine and ordered to the Naval Rendezvous, San Francisco, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 16, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	40	10
Scarlet fever	28	5
Cerebro-spinal meningitis	3	5
Measles	114	9
Diphtheria	39	12
Small-pox	0	0
Varicella	1	0
Pertussis	11	15

A Three-year-old Smoker.—Dr. Walter F. Morgan, of Leavenworth, Kan., writes: "*Apropos* of the case of a four-year-old smoker, reported in your issue of the 26th ult., allow me to state that here in the West, the reputed paradise of the 'young man,' we have beaten this record. Olly A——, when six months of age, is said to have had a 'run of fever,' followed by a hemiparesis. At three years of age he voluntarily began smoking his mother's pipe, and much preferred a cigar to a stick of candy. At four years of age another temporary illness caused him to reject tobacco, which, for the first time, produced nausea, and he has not since felt inclined to resume it. He is now about twelve years of age, and still shows a defective development of one side. Your suggestion regarding treatment in such cases, viz., 'counter-irritation in the shape of a daily spanking,' cannot be much improved upon, perhaps, unless extended to the foolish parents, who, by example and heredity, produce these 'youthful monsters.'"

Hysterical Contracture Cured by a Box on the Ear.—The following is related of the famous French surgeon Dupuytren (*Lyon Médical*). He had been summoned one day to attend a distinguished marquise who was suffering from dislocation of the jaw. On entering the room he walked up to the lady, and without uttering a word gave her a vigorous slap on the face. The marquise immediately called out to her servants to show the doctor to the door. But in giving her order, much to her surprise, the marquise discovered that she was cured of her dislocation. Moral: A box in time saves the chloroform.

Is Fair Hair Becoming Extinct?—A recent issue of the *British Medical Journal* prints a long editorial article devoted to this burning question. It concludes as follows: "On various grounds, therefore, it would seem as if the fair hair so much beloved by poets and artists is doomed to be encroached upon, and even replaced, by that of darker hue. The rate at which this is taking place is probably very slow, from the fact that nature is most conservative in her changes."

A Louisville doctor, aged eighty-one, has just married his sixth wife, aged forty-one.

Uterus Duplex.—Dr. G. Eduard Buxton presented to the San Diego (Cal.) County Society a patient with this malformation, which was demonstrated to the members present by individual inspection. In relation to the case he said the girl was nineteen years of age, and had been brought from the country to be treated for "whites," which had troubled her for eight months but had been profuse for four. Was engaged to be married, but health being so poor this had been postponed. Had lost weight, no appetite, some cough, was pale, bloodless, and hysterical; her countenance had the peculiar hue of chlorosis; complained of much pain through pelvis; had frequent and painful micturition. The pudendum, as seen, was swollen and covered with a thick, yellowish, foul-smelling discharge, and venereal disease was suspected; but on seeing her again, the active inflammation having in the meantime been reduced by appropriate remedies, the hymen was found intact and only after applications of cocaine could the little finger, with difficulty, be inserted. Injections for vaginitis and constitutional treatment were continued for some time without an arrest of the leucorrhœa; and the virgin-size speculum was introduced a number of times for purposes of examination and applications without discovering anything abnormal. But finally noticing a flake of matter adhering to the side of the vagina, and apparently partly covered by a fold of the mucous membrane, this was lifted up on a probe and the opening into another passage appeared, which, on investigation, proved to be another vagina with separate and distinct uterine os and canal termination: in other words here was a double vagina and uterus. And now the slow progress made in treatment was explained; a single vaginitis had been treated while a double one was to be cured. There is but one ostium vaginæ, and nothing externally to hint at the double condition within. The opening to the extra passage is on the left side and about an inch behind the hymen. This malformation, we are told, is due to an arrest of development in the ducts of Müller; instead of a union or coalescence of these ducts, each duct grows by itself, uniting at the median line; but absorption of this central wall fails to take place. Eisenmann, copied into all the books, shows a double all the way, with double hymen.

Skene speaks of a case of double uterus he attended where the right had borne three children, while the left was virgin. She had been attended in her confinements by three different physicians, none discovering the malformation.

Barnes mentions a case, attended in consultation, with severe puerperal convulsions. The gentleman in charge could touch the presenting head, but, he says, "When I tried, I found a dense fleshy septum between my finger and the head, although it was quite clear that my finger passed into the os uteri. At last, following my friend's guidance, I also got my finger on the head; and here I ascertained that there were two ora, each leading to distinct uterine cavities, one of which contained the child, while the other was empty. It was necessary to deliver by craniotomy."

In the Heidelberg Museum there is a double uterus with double vagina taken from a woman who died after labor. At her labor two distinguished physicians attended; one declared the woman was not pregnant, the other that the head was in the os uteri. One had examined the left vagina, the other the right.

Emmet speaks of retention of menses on one side, in this condition, as presenting a very puzzling case for diagnosis.

In a late number of the *New York Medical Journal* Dr. Currier reported a case of double uterus in a woman married eight years and who had borne five children; this condition of uterus was only discovered during an operation in which the abdomen was opened and the uterus exposed.

In the discussion that followed before the Academy of Medicine, Dr. Murry said two cases of double uterus had come under his observation, and there had been no interference with the course of labor. The practical question in this particular case, Dr. Buxton said, is what bearing does it have on marriage and maternity? Her mother asks can she marry? And the physician inquires, would she likely become pregnant in one or both sides; would she go to full term, or would the rudimentary organ abort or rupture? If she safely reached labor would this vaginal septum obstruct; if so, should it be divided, and when—now, before marriage, at the beginning of pregnancy, or when labor should demonstrate that such was necessary? The subject elicited a very general discussion; just such a case never had been seen by the members present. Dr. Doig had under treatment a patient, the mother of eight children, whose vagina is divided by a septum in the median line, beginning back of the ostium vaginæ and extending to within a short distance of the uterus, but leaving that organ free and unattached; the uterus itself being single throughout. The septum in this case seems to offer no obstacle to labor.

The members thought in the light of statistics we should not be justified in discouraging marriage in a case of this kind, nor interfere in any way with the due course of nature until such time as it should become apparent that aid was necessary.

In closing the discussion Dr. Buxton called attention to the statement by Barnes: "If labor was found obstructed by such a septum, there should be no hesitation in dividing it." And to Lusk: "It is still undecided whether double uterus be a cause of abortion and of premature delivery; ordinarily the symptoms and course of pregnancy are unaffected by this malformation, although we sometimes have tedious labor from uterine atony, and post-partum hemorrhage from atony or attachment of placenta to septum, which being imperfectly developed does not contract."

In a recent number of the *New York Medical Journal* Dr. Goelet mentions a case in which he had dissected out the vaginal septum and was inclined now to question its expediency. And also to a paper on this subject read by Dr. Dunning, of Indianapolis, before the Obstetrical Section of the American Medical Association, at its last meeting, based on a case he had accidentally discovered in treating a case of abortion; he said it had been usually supposed that the mortality in such cases was great after abortion or labor at term, but he showed the contrary was true; hemorrhage in this condition was not so dangerous nor so common as had been heretofore believed.

Dr. Buxton said he had not felt it to be his duty to place barriers in the way of this young person's marriage, and had advised the mother to sanction it.

The Arrogance of Quackery.—The audacity of the quack under the quasi-protection of a free government is a political force in many parts of the United States. As applied to the State of Illinois, it is said to have forced the retirement of Dr. Rauch from the State Board of Health, through the demands made upon the Legislature of that State by the venal rural press, which subsists on quack advertisements. The quack influence dominates the law-givers and threatens to nullify the work of the health authorities for the protection of the public. For ten years Dr. Rauch has been a thorn in the side of the fraudulent diploma mills, of the advertising nostrum-makers, of the travelling charlatans, and, finally, of the quack-fed newspapers, and now they have united in one supreme effort to drive him out of official position. He has waged unrelenting warfare with them; but he was never able to crush them. And now they seem to have grown stronger than he. In Oregon the newspapers, or some of them, have raised a clamor against the State Examining Board, because of its refusing a license to an advertising quack of the old Buchanan stamp, and the latter has been induced to return to the State and measure swords with the State board. If he succeeds in his contention he will be en-

abled to continue to practise at Portland, and that, the papers rejoice to say, will be equivalent to $50,000 annually expended in their advertising columns. This, from their stand-point, is worthy of an effort. But these papers never stop to inquire whence these dollars must ultimately come—viz., from the pockets of the suffering public—nor how much of malpractice and suffering and damage must incidentally be incurred in order that the quack may get the means to advertise thus lavishly. The audacity of quacks is also illustrated by a recently reported trial at Pittsburg. The defendant, one of the "no-cure-no-pay" species, had, it is charged, caused the death of a man, whose widow brought suit for damages. He entered the plea that he could not be held, for he was "no doctor." The court rightfully resented this monstrous plea and committed the case to the jury to pass upon the facts.—*The New York Medical Journal.*

Doctors Make Poor Patients.—The practice of medi cine ought to make its professors the most sympathetic and tender-hearted of men, and so they often are. The spectacle of so much suffering, such helpless, hopeless misery, cannot be without a most salutary influence on the medical attendant. He enters the sick room full of spirits; his life is one of constant variety, and he knows that whatever his clients may think and feel when in perfect health, when ill they hang on his words, attach almost superstitious importance to his lightest opinion, and credit him with powers and foresight which he would be the first to disclaim. Herein we think lies much of the doctor's immense influence for good: he can cheer, comfort, and sustain; he often knows from long experience that the ailment, which to the sufferer seems so hard to bear, and which is thought to be attended with extreme danger, will speedily run a simple course, and that in two or three days the patient will be convalescent, and will be looking forward to a speedy return to his ordinary life. The only exceptions are those comparatively rare cases in which recovery is not to be looked for; but these bear a small ratio to the whole number of the sick. Perhaps, too, we might exclude the rather large class of fashionable invalids, who, without much the matter, enjoy the importance of illness and appreciate at their full value the doctor's friendly visits and his little attentions. But one class of the sick can seldom find any consolation from the doctor's visits, and that class is the medical. Whatever confidence the sick physician may have in his brethren's skill and knowledge, he cannot be cheered by the latter's encouraging words, for he himself knows so much that he will not confound a slight cough with the last stage of consumption, and a little indigestion with heart disease; but, nevertheless, when he is conscious that he is in the first stage of a serious and protracted illness; when he suspects or has ascertained that his complaint is one which can only have one termination, the grave, then, however encouraging his colleagues, however grateful their sympathy and welcome their special skill, he looks far beyond the present, and understands with a clearness which not one layman in a thousand can fortunately pretend to, that suffering, and possibly financial ruin, and finally death, await him.—*The Provincial Medical Journal.*

Naregamia, the New Expectorant.—Dr. Schoengut, of Vienna, has recently employed a tincture prepared from the bark of naregamia alata, which is a shrub indigenous to India. It is necessary to dilute the tincture. He recommends the following:

℞. Tincture of naregamia..... ♏ xvj.–xlv.
Cherry-laurel water ..... f℥ iij.–f℥ j.
M. Sig.: Ten drops every hour.

In the twenty-four cases in which Dr. Schoengut employed the tincture the expectorant action of the drug was manifest in every case, especially in those characterized by scanty secretion and severe cough, or where the expectoration was viscid and stagnant. In cardiac affections, accompanied by catarrh of the respiratory tract, the tincture acted beneficially. Good results were obtained by its use in cases of pulmonary emphysema. It is claimed that naregamia renders the bronchial secretion more fluid and less viscid. The improvement in the expectoration is followed by diminution of the respiratory difficulty. Circulation and digestion are not affected by the drug, which has no toxic action whatever.

In the Office of the Wrong Specialist.—A physician whose specialty was skin diseases one day saw a patient enter his office. "Strip off your clothes!" commanded the physician. "But, doctor!" expostulated the patient. "No buts!" exclaimed the doctor, who was quick-tempered; "do as I bid you." The patient doffed his clothes and stood naked before the dermatologist, who, examining him closely, remarked: "My good sir, I can detect no affection of the skin in your case." The patient smiled, and replied: "True, doctor. I came to consult you in regard to my eyes."—*Cincinnati Lancet-Clinic.*

An Easy Way to Raise a Reputation.—A South Carolina physician, asked why he located at Monclova, said: "It is a first-rate place for a doctor. If a man is sick all you have to do is to tell his friends (no matter whether the affair is serious or not) to go to a priest and have him confessed and prepared for death. If he dies they will say: 'What a good doctor he is, he knew he must die, and so had his spiritual interests attended to.' If he recovers they will say: 'What a capable physician he must be. The man was in the last extremity and prepared for death, and he cured him.' So in either event it is a first-rate place in which to achieve a medical reputation."

Looking Forward.—In an article by Dr. Danforth, published in the *Texas Courier-Record*, a strong plea for better wives and mothers is made. The doctor, whose Christian name is Grace, says that: "Many mothers, from a false delicacy, fail to instruct their daughters upon plain physiological facts that every girl upon coming to woman's estate is entitled to understand. A knowledge of the most sacred laws connected with our physical being is left to the tuition of companions and servants. Men realize that innocence and ignorance are not synonymous terms, but women still confound them. With the progress of our present civilization our daughters demand better instruction than their mothers received, to make a more just discrimination between modesty and prudery. Unborn generations are demanding better mothers." Unborn generations apparently know what they are about down in flowery Texas. In this imperfect world of ours it is never too soon to reform. We wish the unborn generations success in their enterprise.

Revue Internationale de Bibliographie is the title of a new journal published under the direction of Dr. Jules Rouvier, of Beyreuth. It will appear six times each year, and will be a pure index of medical literature, similar to the *Index Medicus.*

A Blow at the Bagpipe.—

A dentist, it seems, has discovered
That those on the bagpipe who play
Run a very great risk of promoting
A premature dental decay:
Nay, the mouthpiece so scrapes the enamel,
And injures the structure beneath,
That he states that continuous piping
Is terribly bad for the teeth!

'Tis well; that the piper should suffer
Is nothing but fair, I am sure;
But what of the innocent victim
Who has to his piping endure?
'Tis surely high time that some doctor
Should answer this question most grim,
And tell us, respecting the victim,
The effects that the pipes have on *him.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 9.
Whole No. 1034.

NEW YORK, AUGUST 30, 1890.

$5.00 Per Annum.
Single Copies, 10c.

MEDICAL LIBRARY OF THE BELLEVUE HOSPITAL.

Original Articles.

THE TREATMENT OF CERTAIN DISEASES OF THE NERVOUS SYSTEM BY SUSPENSION AND POSTURAL METHODS, WITH THE DESCRIPTION OF A NEW APPARATUS.

BY ALLAN McLANE HAMILTON, M.D.,

NEW YORK.

NEARLY eleven years ago I suggested to Dr. Lewis A. Sayre, of this city, the use of suspension apparatus in certain cases of transverse myelitis. He had for many years, as is well known, employed the apparatus which bears his name, and the plaster jacket, for vertebral disease; and I had myself seen its skilful application by him in more than one case of compression myelitis due to Pott's, but I am not aware that he had systematically suspended the patient without the subsequent application of the cuirass. At this time, and afterward, I was in the habit of using postural methods in the treatment of inflammation of the spinal cord, the body being inclined in such a way that there was more or less spinal extension, while the feet were strapped to the foot of the bed. This was before the contributions of Langenbuch and others were made, in which nerve-stretching was advocated, and before the method of Volckmann had been published. My success in many cases was most encouraging, but I have never reported my experience except orally to several medical friends. It would be a work of supererogation to refer, except in the most passing way, to the active use of suspension for the treatment of nervous diseases, which is hardly more than a year old. During the year 1889 this method was tried by a host of French, German, and American neurologists, and by Motschutkofsky, of Odessa, who really appears to have been the first continental observer to give an explanation of the manner of relief, and whose last contribution, which has been translated into English, is certainly one to make us place great reliance upon this form of mechanical treatment. Charcot, in his original paper, which was one of the earliest, started an interest in this novel therapeutic procedure, and Eulenburg and Mendel were, in Germany, the first to publish a number of cases—about forty in all—which were subjected to nine hundred and seventy-five suspensions, and a decided diminution in the severity of symptoms in tabes, as well as other diseases was apparent. Subsequent German reporters have been more moderate in their praise of suspension, and some whose opinions are entitled to great weight have given it their emphatic disapproval. Mosler and Eisenlohr had known of no good results from suspension, except in one case, and Rumpf deprecated its use, especially in recent cases. The burden of evidence, however, goes to prove that suspension by the Sayre apparatus certainly effects decided improvement, and amelioration of all the symptoms of tabes, excepting the lost knee-jerk and ocular degeneration. In my analysis of the numerous reported cases I have been impressed with the fact that a great many are irregular and unsystemic, and it would appear that these are the ones most benefited. This conclusion has also, I believe, been reached by Abadie.

The accidents which may result from suspension by the head are too numerous to be disregarded, and putting out of the question the deaths that have resulted from carelessness or improper adjustment when the victims were alone, I believe—despite Motschutkofsky's optimistic assertion to the contrary—a great many disagreeable results may follow even the most careful suspension. Eisenlohr, in a discussion before the German Society of Naturalists and Physicians, referred to the fact that up to September 19, 1889, no less than seven cases of death had been reported in one journal alone. Gorecke reported the case of a man, aged forty, who was paraplegic, and who tried hanging, with the result that after the eighth suspension there was loss of speech and hearing and dysphagia, and though the treatment was discontinued he became blind—his thoracic muscles were paralyzed, and he died asphyxiated a short time afterward.

So far as I know there have been no very serious results reported in this country; but within the last few days I have been consulted, in regard to a tabetic patient, who on April 22, 1889, began suspensions, using Sayre's apparatus at home. He could only stand one minute on the toes at first, but became used to six minutes (gradually) without arm-straps. He was suspended twice a day sometimes. The suspensions seemed to benefit him at first, but produced sleepiness; face suffused during suspension. He had to be lowered very slowly, or he would have great pain along the spine and back of head. He thought he could walk better after a suspension. This was continued up to July 6th, when he had a very severe headache in the morning (the last suspension having been the night before). Pain increased on right side (top of head); went to bed; next day noticed an increasing paralysis of fingers of right hand.

On return to city he began suspensions again (which, however, had been continued while out of town two weeks), but often would go several days without any, and as winter came on, only had one a day. He could not stand so much either, only three minutes at a time. Before Christmas, 1889, he experienced great physical exhaustion on the least exertion; food did not seem to nourish—but took a great deal. The suspensions were stopped a few days before he was last prostrated, January 16, 1890. He passed no urine, except a slight overflow, from then until it was drawn off by catheter on January 27th. On evening of January 16th severe pain was experienced in right elbow, which, however, he had had before, and also involuntary contraction of left arm. There was great nervousness, of a nature which had never been seen before in the patient; sleep was impossible without a hypodermic of sulphate of morphia, which was given. This condition was followed by incontinence, and subsequently by right hemiplegia. It is needless to say the suspensions were stopped.

It would seem that suddenly developed loss of power of a paraplegic form is not uncommon. Motschutkofsky speaks of such an accident in one of his cases; and Blocq produced spasmodic paraplegia. A host of minor disturbances undoubtedly follow suspension by the neck and arms. Retention of urine, various sensory disturbances of a painful character, anæsthesia, hyperæsthesia, cramps, aggravated paræsthesia, and vertigo may be mentioned.

In one of my own cases a disagreeable vertigo, which lasted for nearly half an hour, followed a short suspension, even when the straps were perfectly adjusted; and in the case of a stout man, an inflammation of the scalp beneath the strap which passed below the occipital protuberance was produced, and for a time I feared phlegmonous complication.

The late Dr. Lewis Hall Sayre told me, a short time

before his death, that he had never known of any disagreeable accident to follow the use of this apparatus, and his experience was certainly very large; but it cannot be denied that others are more unfortunate. Several modifications of the original apparatus have been recommended, which more or less diminish the dangers, and I may refer to the elbow supports of Weir Mitchell, and the modifications of the lateral straps which form a part of Motschutkofsky's improved apparatus. The good effects of this treatment undoubtedly result, as Motschutkofsky has shown, by a direct elongation of the spinal cord and a change in its vascularity. This careful observer went so far as to remove a segment of the vertebral column, so that he might observe the change of position, if any occurred, in the cord. He determined the position in which the spinal nerve-trunks left the cord, and at a corresponding point externally made a mark of reference, and then suspended the cadaver. He found that when suspended the nerves became nearly vertical, and there was an elongation of the cord of from 3 to 4.5 ctm.; and he also discovered that there was a decided tension of the spinal meninges, with an increase in the amount of the cerebro-spinal fluid. The undoubted extension, which was manifested in a variety of ways as a result of the early experiments in stretching the sciatic nerve, go to show that even this rude accomplishment of the purpose in an imperfect manner was occasionally attended by beneficial results in tabes. Volckmann's method, which Motschutkofsky used in one case where neck-suspension was impossible and dangerous, because of dilatation of the heart and arterial sclerosis, is, virtually, an extension of the sciatic nerves. The patient lies on an inclined plane, cords are fastened to the feet and passed over pulleys at the foot of the bed. To the cords are attached ten-pound weights.

Spinal extension has also been effected by the mechanical method of Hessing, which seems to be rather popular in Germany. The apparatus consists of a tightly fitting cloth jacket, which exerts slight and gradual traction of the spine, but it is a tardy and slow method of procedure, and must be worn for several years. Jürgenssen reports very decided improvement from its use in tabes. In his case the vesical and rectal disturbances of tabes and the lancinating pains disappeared. There was an improvement in sleep, and the gait was less awkward, and he has even known of the return of the knee-jerk when it had been abolished. Erb has used it with gratifying success in cases of multiple sclerosis and transverse myelitis, and Vierordt had known the most excellent results to follow its employment in a patient with spinal disease, chiefly expressed in unilateral hyperæsthesia.

Some months ago I conceived the advantage of a more safe and equally effective method of suspension. This consisted of a movable inclined plane, the patient's feet being fastened to one end so that extension was made when the head was lowered. Acting upon my belief and previous experience that more simple methods could accomplish the same purpose as the complicated suspension apparatus, I had a rough apparatus constructed which is still in daily use. It consists of a pine board six feet six inches long, eighteen inches wide, and one and one-half inch thick. Midway between the ends, upon the under surface, are fastened on either side two iron trunnions, which work in bearings fastened to a stout framework about three feet high. A system of hooks and cogs permits the operator to place the board at any angle, or the patient to regulate his position. Since I have used this contrivance I have had no disagreeable effects whatever from suspension, and the resulting benefit has been just as great as formerly and the trouble has been far less.

I will not weary the patience of my readers by detailing published statistics of the encouraging success of suspension in tabes, but will briefly allude to five illustrative cases.

Analysis of Five Carefully Observed Cases of Tabes which were Treated with Suspension.—Case I.—Male; syphilitic; first seen in advanced second stage. Sensory condition: Characteristic pains; plantar anæsthesia, chiefly on the right side; sometimes unconscious of the position of the great and second toe; knee-jerk absent; Argyle-Robertson symptom; atrophy of left optic nerve; no decided vesical disturbance; usually constipated; no trophic changes; ataxia marked in the right lower extremity. Total number of suspensions, one hundred and eighty; at first three times a week, and afterward every day; arm supports never used; after first five suspensions there was a total subsidence of lightning pains. The first suspension was made during an *accès morale* of patient; greatly benefited, and increased ability to walk. After first ten much less ataxia; relief of pain continued. After first fifty absolutely no return of pain; anæsthesia greatly diminished; more acute sense of location; regained color of skin, and muscular tone improved. Present condition: Nearly one year under treatment, interruption absolutely during trip abroad. No pain since early suspension; little or no anæsthesia; ataxia almost inappreciable; can walk with eyes shut; no return of knee-jerk; optic-nerve atrophy unchanged; Argyle Robertson symptom exists as formerly; patient is undoubtedly helped to a great degree; the motor and sensory disturbances reduced to a minimum and the psychic state of this man contrasts strongly with that of one year ago. He has taken no medicine.

Case II.—Male; history of syphilis; end of second and undoubted commencement of third stage; duration of the disease about eight years. Sensory symptoms: Gastric crises at long intervals; pains in lower extremities; an area of anæsthesia over the sternum and about the anus; finger-tips and soles anæsthetic; delayed sensation; reflex disturbances ceased, and absolute disappearance of knee-jerk on both sides; pupils both contracted as a rule and do not respond to light; atrophy in both fundi; micturition frequent; constipation. Trophic symptoms consist of loss of toe-nails and a tendency to subcutaneous ecchymosis upon the lower extremities; the leg muscles were atrophied, and there was a mere suspicion of knee-jerk of the right knee-joint; gait greatly embarrassed; imperfect co-ordination of hands. Total number of suspensions, seventy-nine; all by head alone; at first weekly, and after a month daily. No noticeable improvement after first five suspensions; after first ten he was certainly less ataxic, and the functions of the bladder were better performed, and not so much characteristic pain. After first fifty there was continued, but slow, improvement in crises; no pains of any kind; but the anæsthesia was quite as profound as ever. His gait was less awkward. He now walks much more steadily. His muscles and skin are better nourished and he is less depressed than in the early months of treatment. He has discarded his cane.

Remarks: The treatment of this case was undertaken without much hope of a good result; the sclerosis was much too general and too long-standing to look for any general abatement of symptoms, but I was impressed with very decided improvement in all the nutritive functions. He had taken iodide for a long time. The reflexes have continued absent, and the condition of the optic nerves remains the same.

Case III.—Male; cause unknown. No history of syphilis in second stage. The peculiar pains affect both lower extremities, and are especially severe in left thigh anteriorly; anæsthesia of both plantar surfaces. There are pains which shoot down the arms; knee-jerk gone; Argyle-Robertson symptom present. No defined retinal atrophy; vesical irritability; constipation. Trophic disturbances consist in frequent and irregularly distributed crops of herpes and painless loss of teeth. Both extremities are the seat of ataxia, and he cannot use his hands for holding his pen or performing any of the little necessary acts of everyday life. Romberg's symptoms.

Remarks: Total number of suspensions, one hundred and fifteen, which were daily from the first. After first

five there was some abatement of pain and disappearance of vertigo. After the first ten decided improvement in the use of the fingers. Could button clothing; fingertips less numb; no pains in lower extremities. After first fifty there was a maintained and continued improvement in every way. After one hundred and fifteen suspensions I am impressed with the advantages of this treatment. The patient retains his urine much longer; walks more easily; has not had pain for some time; though this was at first of almost daily occurrence, notwithstanding the disease had advanced well into the second stage.

Case IV.—Male; light syphilis twelve years ago. First seen at the end of the first stage. Stabbing pains in lower extremities which were largely dependent upon the weather; formication of toes; absolute loss of sexual power; knee-jerk can only be occasionally evoked, and then feebly; superficial cutaneous reflexes, however, seem to be exaggerated; no appearance of optic degeneration; irritability of bladder with spasm; lower extremities the seat of light ataxia; some swaying in walk; Romberg's symptom; forty-eight suspensions, daily from the first; immediate improvement in condition of bladder after first suspension. After first five, and since, there has been absolutely no pain, and after the first ten a noticeable improvement in diminution of ataxia, which has been maintained, and now he is apparently free from all symptoms. This is a remarkable case, from the fact that the symptoms had existed for several months and were rapidly deepening, as they sometimes do in traumatic tabes. No medicine whatever was used.

Case V.—Male, aged thirty-eight, of irregular habits; addicted to alcoholic excess; no defined history of syphilis; vague sensory symptoms; lameness of the ankles; stabbing pains through ball of right foot, occasional fulgurating pains in calves and thighs, with cramps, especially at night. Attacks of neurotic diarrhœa and abdominal crises; no knee-jerk; optic-nerve degeneration; lower extremities are ataxic; gait characteristic; patient easily agitated, and becomes demoralized when startled. Eighty-three suspensions in all; at first every day, then three times a week; hung with the arm support. After first hanging there was a feeling of better security, and less ataxia. After tenth hanging this was manifest to a great degree. He has had little or no pain since the first hanging. Condition after the fiftieth suspension: Walks firmly; little or no ataxia present; goes down-stairs without difficulty, and walks without a cane. The muscles are firmer, and there is very little difficulty in progression. He can stand with his eyes closed. The condition of the reflexes and fundus is unchanged.

In all these cases the suspensions averaged three minutes at first, and later they were protracted to eight or ten.

Besides these five cases, I have employed suspension in many others which were atypical or only occasionally seen. The results were, as a rule, encouraging, although there were many occasions where the treatment was followed by no relief.

My experience goes to show that suspension is far more beneficial in a number of functional and irregular conditions than it is in some of the diseases for which it has been most highly recommended, and, in fact, in those neuroses in which there is an hysterical element it has been, in my hands, exceedingly useful. I have treated six cases of traumatic hysteria, due to railroad accidents or falls, and am convinced that not only has it been of service in developing a state of expectant attention, but in some cases of spinal shock, with incipient disease of the cord it has promptly mitigated or removed the symptoms. One of my most satisfactory experiences with suspension was in a case seen in consultation with Dr. William M. Polk. The patient, a young married lady, was thrown from her carriage several years ago, striking upon the left occipito-parietal region, and her body was bent in such a position as to suggest to those who picked her up that her neck had been broken. She was unconscious for several hours, but improved, and after a long convalescence was able to lead an exceedingly uncomfortable existence. Besides violent pain in the left occipital region, which was at times neuralgic in character, she complained of almost constant pain at points corresponding to the situation of the second and fifth dorsal vertebræ, which at times extended anteriorly, with crises of epigastric pain which occurred without relation to the condition of digestion. She was unable to move about or take any exercise, and her social duties had for several years been almost entirely disregarded. When I saw her she was thin, pale, and badly nourished, and sat in a constrained position, her body being bent forward as if she had vertebral caries, and rotated her head with difficulty. Her knee-jerks were more active than normal, and she complained of areas of cutaneous hyperæsthesia, especially of the right lower extremity. Both superficial and deep pressure upon the dorsal spine produced distress, and she could not sit upright without great discomfort. I recommended suspension, and there was an almost immediate improvement. Sayre's apparatus was used seventeen times, making the suspensions by the head alone, discarding the arm supports, the length of the suspensions varying from twenty seconds to three minutes. After the second suspension there was great diminution in the pain, and a feeling of mental confidence which was very markedly in contrast to the previous psychical state, and as the visits were continued I was able day after day to note a slow but sure recovery of normal health, the patient at the end of the month walking with a regular carriage and firm step, gaining in color and flesh, going into society, and attending to her long-neglected domestic affairs. In this as well as the other cases the amelioration was prompt, and I could not escape the conviction that the spinal extension was entirely responsible for the improvement.

I have also used my own apparatus in three cases of more or less diffused neuritis, one case being of rheumatic causation, one of unexplained inflammation of the brachial plexus, and the third a traumatic case, and all were helped. One of the last cases in which I have used this extension apparatus was of meningo myelitis of specific origin, which yielded to a certain point to the iodide, but a tetanoid paraplegia of a light grade obstinately remained. The sensory features of the man's condition was an intense causalgia of the plantar surfaces, and, despite electrical treatment and massage, there was little or no improvement. Almost after the first day the apparatus was used there was a manifest gain, the spastic gait being less noticeable, and after daily applications for two weeks the patient declared that he could use his lower extremities with greater freedom than for months before. The sensory disturbance was also benefited. Bearing in mind the advantages of the postural method in certain vascular disturbances of the brain, I essayed its use in anæmic headaches, suspending the women by their heels for periods varying from three to ten minutes every day. There was no resulting embarrassment or discomfort, even when the treatment occupied the longest of these periods, and I was unable to observe any great difference in the cerebral circulation. The clinical results were certainly encouraging, and in one woman with a condition of pelvic derangement, in which ovarian dislocation was a feature, this, as well as cerebral disorders, was helped.

A Test of Virginity.—In the Middle Ages, when men were perhaps more suspicious than they now are, it was a not uncommon practice of the groom to demand proof of virginity from his future bride. This was obtained in a perfectly satisfactory manner, and without offence to the young woman's modesty, by having her blow out a candle. If she succeeded in doing so at a single puff her honor was vindicated, but if she failed she had sinned, and as many puffs as the candle-flame resisted so many had been her lapses from the path of rectitude.

THE IMMEDIATE REPAIR OF INJURIES TO THE PELVIC FLOOR.[1]

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EVERYONE must concede that lacerations of the pelvic floor do occur. A large number of these are not attended to at once, or the operation is unsuccessful, or only a skin perineum is formed; if the latter accidents happen it is, in my opinion, due to the fact that internal vaginal sutures are not used. My only excuse, therefore, in bringing up this time-honored subject before you is to show the necessity for internal suturing, and explain how it can be practically and easily done.

The results of antiseptic midwifery are such that one may now confidently expect to have an aseptic condition of affairs during the puerperium; if such be the case, why should the parturient with external and internal tears of the genital tract be compelled to put off for an indefinite period an operation which ought to be done at once, and if done will almost certainly be crowned with success? The time is past when physicians can excuse themselves by stating that the conditions are unfavorable and consequently you will not get a good or satisfactory result.

The operation, the technique of which I shall presently describe, may be used with slight modifications on lacerations through the sphincter; but as these are rare, I shall confine my remarks to those which do not extend into the rectum. My observations and results were obtained at the Nursery and Child's Hospital, where better opportunities are offered to study such a subject than can ever be the case in private practice.

Practically I observed three varieties of lacerations, which, however, varied greatly in the degree and extent of the injury.

1. A clean cut median laceration, starting at the posterior commissure and passing back, to a greater or less degree, directly through the middle of the perineal body. The simplest form of perineal lacerations and such as produce but slight inconvenience to the woman, even when quite extensive.

2. Lacerations of the perineum involving the skin in the median line, even as far back as the folds of the anus, associated with extensive injury of the posterior vaginal wall. This internal tear proceeds upward a little to one side of the median raphé; may, however, and often does, pass up on both sides of the vagina, in which event one branch of this jagged V-shaped tear is shorter and extends more obliquely upward than does the other.

3. Lacerations of the posterior vaginal wall without any rupture through the skin. These tears are usually V-shaped, one arm being longer than the other, the point of the V being situated at the posterior commissure.

The etiology of the injury does not concern us. I wish, however, to say a few words about the signs of an impending rupture. The first indication of any trouble is usually the escape of a little blood from the vagina, none having previously been observed during labor. An examination with the finger reveals a solution of continuity of the vaginal mucous membrane some little distance from the posterior commissure; this may occur from fifteen to thirty minutes before the head is born, if the vulva is narrow and perineum unyielding. As the head emerges, the laceration on the posterior vaginal wall grows larger, and with the birth of the head the skin ruptures. This I have repeatedly seen in normal cases, and also in forceps deliveries.

Œdema of the perineum may be present, but is not constant.

In other cases the first sign is a separation of the epithelial and other structures at the posterior commissure, almost immediately before the head escapes. This rapidly extends backward and produces a linear, clean-cut tear through the centre of the perineal body.

On other occasions there is scarcely any time for symptoms to present, for the head simply ploughs through the perineum by reason of the strength and rapidity of the uterine pains.

Finally, in a fourth set of cases the post-partum hemorrhage may be quite profuse, but the child is delivered without any external injury; careful internal examination will reveal quite extensive injuries to the posterior vaginal wall.

The wounds in all these cases resemble contused lacerated ones, and in repairing them their edges should be brought into direct apposition, and no raw surfaces or pockets left to allow of the formation of puerperal ulcers or other inflammatory action. This is best accomplished in the following manner:

All instruments are to be placed in a solution of carbolic acid; they are few in number, and include a medium-sized needle holder, pair of scissors, thumb-forceps, and tenaculum, with two sizes of catgut.

The hips of the patient are brought to the edge of the bed, the legs being held in the lithotomy position by assistants, or a sheet-sling passed around the neck, after which a vaginal douche is given, 1 to 3,000 bichloride. Draw back the labia on each side, and with the finger in the rectum advance the posterior wall of the vagina; by this means you fully appreciate the extent of the injury and bring into view the upper angle of the wound. This is the point where the first suture is to be inserted, and from here they are carried down to the external wound. Each suture must pass completely around the laceration in order to bring the deeper parts into close proximity. The internal sutures having been properly adjusted, external ones are now passed from behind forward, and the operation is completed by carefully closing the edges of the wound at the posterior commissure. This method applies to division 1, and most of the cases in division 2; when, however, the lacerations shoot off in two directions both sides must be sutured, the second arm being done in the same manner as, and after the first, after which the external wound is repaired. The nice point in this operation is in fitting together the parts which are to form the posterior commissure.

In division 3 the same rules apply; in exceptional cases it may be necessary to insert one or two buried sutures because of the depth of the wound. In one of my cases it was necessary to pass the first two sutures almost entirely by the sense of touch.

Catgut sutures (Nos. 3 and 2 of Am Ende's make) were always used for the deeper ones, and a lighter variety where the tension was not so great. Care should be taken not to draw them too tight, some allowance being made for subsequent œdema. Another douche is then given, iodoform dusted over the wound, iodoform suppository introduced into vagina, and antiseptic pad placed over genitals. The patient's legs are bandaged the first twenty-four hours.

The after-treatment may be summed up as follows: Catheterize the patient only when necessary. Introduce an iodoform suppository night and morning after the external genitals have been antiseptically cleansed. Use antiseptic pads to cover genitals. Open the bowels on the third day, earlier if there is any indication, and keep them open afterward. This was the routine practice during the last eighteen months of my service at the hospital, and is, I believe, still carried out.

Advantages: By commencing to suture at the upper angle of the wound the sides and edges are brought into perfect apposition from the start, and each subsequent suture is more easily inserted. You completely control all hemorrhage. The insertion of the sutures through the bruised vaginal tissues causes but little pain. The vaginal wound being closed the cutaneous one is much diminished as to depth and length, consequently not so many sutures are required. Frequently only one or two deep sutures are needed. It leaves no pockets for the accumulation of lochia or the formation of puerperal ulcers. A great

[1] Read before the Section on Obstetrics of the New York Academy of Medicine, May 22, 1890.

advantage is in the use of catgut, since this is absorbed and the patient relieved of all anxiety as to the removal of the sutures, which hold on an average seven days. Finally, it, in my opinion, restores the structure of the pelvic floor more nearly to its normal condition than appears to be the case with other operations. Some may object to it because it is slow and tedious; true, but if by giving a little more care and time to an operation which almost everybody considers necessary, you get better results, it is worth the trouble. The old idea and custom of allowing the wound to heal by granulation, and imagining that you thereby were getting a good perineum, has led many of us, I fear, into treating this injury in a less thoroughly surgical and antiseptic manner than would be the case if some other part of the body were affected. Others may object to it as unnecessary, the old simpler methods giving equally as good results. But they don't; this is shown by the frequency of the secondary operation, done after the primary has failed entirely or only united externally, and by the statistics of those who have thoroughly reported their cases. For example, of 103 lacerations Liebman's [1] results were as follows: Complete cure, 49; partial, 37; failures, 7. Steinmann: [2] In 98 operations complete cure about 44 per cent.; partial, 13 per cent. Bidder: Number not stated; complete cure, 47.6; partial, 26.9 per cent. Dr. R. C. M. Page [3] is the only one whose reports are very favorable. In his article on the "Immediate Operation for Lacerated Perineum," he states that at that time (1883) it was not done in the Maternity Hospital because it gave such poor results. His own successes were all in private practice. Of 100 cases he reports 90 cured, 9 improved, 1 failure; these were greatly due to the thorough antiseptic methods which were used before and after operation.

A final objection, which militates greatly against any immediate operation, is that the laity unjustly blame the accoucheur, holding him personally responsible for the laceration and attributing its occurrence to his inexperience or carelessness. This objection can be met only in part, first, by an honest acknowledgment on the part of every practising obstetrician; and second, by making the laity better acquainted with the facts in the matter. For this purpose I shall merely quote a few statistics of well-known obstetricians. Credé in 1,000 deliveries, in the Leipsic clinic, had 392 lacerations, 39.2 per cent. Fasbender, in the Berlin Maternity, gives the following: 300 cases; 67 lacerations, 22.3 per cent.; 150 primiparæ, 51 lacerations, 34 per cent.; 150 multiparæ, 16 lacerations, 10.6 per cent. Age—fifteen to twenty years, lacerations 30.4 per cent.; twenty-one to twenty-five years, 34 per cent.; twenty-six to thirty years, 38 per cent.; over thirty years, 50 per cent. M. Liebman: 1,064 cases, 170 lacerations, 15.9 per cent.; of these 471 were primiparæ, with 145 lacerations, 30 per cent.; 593 were multiparæ, with 45 lacerations, 4.2 per cent. K. Schroeder found 34.5 per cent. of lacerations in primiparæ, and 9 per cent. in multiparæ. Winckel gives 20 per cent. of perineal lacerations. Dr. F. E. Beckwith, of New Haven, in 200 cases, reports 62 per cent. of lacerations, 25 per cent. back to sphincter.

My own results, where all the lacerations were measured, were as follows: Primiparæ: 106 cases; 47 without any laceration, 44.3 per cent.; 6 with median laceration of ½ inch; 4 with median laceration of ¾ inch; 6 slightly torn through skin, no measurement; 5 slightly torn internally, no external tear; 38 extensive lacerations, of which 32 were repaired at once, 35.8 per cent. Multiparæ, 25 cases: 20, without any lacerations, 80 per cent.; 5 with lacerations; all of which were abnormal deliveries.

One may safely conclude from these varied statistics that fully 25 per cent. of all primiparæ have perineal lacerations.

[1] M. Liebman: Klinische Beobachtungen über Dammrupturen, Zeitsch. f. Geburts Gynäk.

[2] Geburt u. Wochenbett älterer Erstgebärender, Archiv f. Gynäk., Bd. xxii. 1883.

[3] New York Medical Record, December 1, 1883.

In searching the medical journals for these statistics I have only found one article in which the author advises the use of external and internal catgut sutures and gives his results. This was by Dr. H. Keller, in Bern, in an article entitled, "The Continuous Catgut Suture in Vaginal Lacerations," [1] one quotation from which I beg leave to make: "Without exception I began the repair of the laceration in the vagina, since all lacerations begin there, and the suturing of the vaginal tear is done much better as long as the perineal tear is still gaping." His results were exceptionally good. Out of 42 cases he had 41 successful results, 97.6 per cent.; 2.4 per cent. failures. He reports 26 cases of Bröse, with 23 perfect results and 2 failures; 88.6 per cent.

To these I can add 32 more, with 28 of them successful, 87.5 per cent.; 3 fair result, 1 failure — case of post-partum hemorrhage with albuminuria. Thus of 100 reported cases there was partial or complete failure in only 7 per cent. Two of my cases I should like to briefly report.

Case I.—July 28, 1887. Lucy T——, American, primipara; pains very strong and frequent, driving head through perineum. External tear reached to the margin of anus, 1½ inch long. Internal tear V-shaped; one on right side of median raphé 2 inches long; one on left side of median raphé 1½ inch long. First suture introduced with some difficulty high up on right side, three more interrupted sutures closed the right-hand tear and three the left; four external interrupted sutures inserted; the fourchette was closed by one or two small sutures.

August 23d.—Result success.

October 4th.—Note perineum firm; grasps finger firmly; cervix badly lacerated; uterus anteverted. Patient has never had a bad symptom; troubled with leucorrhœa from cervical laceration.

Case II.—July 28th. Margaret V——, German, primipara. Vulva ring small; pains strong—good intermission. Delivery of head retarded; chloroform administered. Tear commenced internally; episiotomy done on left side, wound ¾ inch. Delivery accomplished without any further external laceration. Internally the tear extended down on right side alongside the rectal tube. Depth of this pocket, 3½ inches; length of laceration, 2¾ inches. To the left of the raphé extended another laceration more obliquely upward 1¼ inch in length; episiotomy wound, ¾ inch. First and second sutures on right side had to be passed almost wholly by the sense of touch; as they did not embrace all the structures two deep-buried interrupted sutures were inserted, after which two more were introduced and closed this branch of the laceration. Left side of tear was closed with three sutures; a pocket was left between the point of junction of these two lacerations and the skin, which was closed by a buried suture. One suture through episiotomy wound and some small superficial ones at fourchette completely restored the pelvic floor. Varicose condition of the perineal vessels. The result was a success.

August 29th.—Cicatrix on right side measures 2¼ inches; its highest point being not more than 1 inch from cervico-vaginal junction. Cicatrix on left side, 1¼ inch. Per rectum, a sound perineal body is found to exist. Cervix not torn—uterus somewhat enlarged and retroverted.

The results in these two different types of cases, which were about as bad as they could have been, did not surprise me, because I had by that time reached a point where I was confident of success. Such will, I am certain be your results also, if you will but give the operation a trial, paying especial regard to all antiseptic details.

A Homœopathic Dispensary is building in Boston. It will cost about fifty thousand dollars.

[1] Die fortlaufende Catgutnaht bei Scheidenrissen, Archiv für Gynäk., Bd. xxvi. 1885.

A NOTE UPON DISTURBANCE OF THE SENSE OF TASTE AFTER AMPUTATION OF THE TONGUE.

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The distribution of taste-fibres with certain of the cranial nerves has long been a difficult problem for the physiologist and neurologist, and the intricate paths for gustatory sensations are not as yet conclusively determined. It is probable, however, that although there are taste-fibres in parts of the peripheral course of the fifth and seventh nerves (chorda tympani) destined for the anterior portion of the tongue, and others in the peripheral distribution of the ninth nerve supplying the posterior linguo-faucial areas, all of these gustatory fibres ultimately unite through the mediation of several ganglionic anastomoses to enter the brain together with the root of the fifth nerve.

Yet this is not the only puzzling feature of the taste apparatus. For instance, the final taste-filaments are distributed not only to the tongue, but to the soft palate and palatine arches; and another peculiarity is that the sense of taste, like that of touch and sight, is composite, so that fundamentally we recognize at least four, and perhaps five sapid qualities, viz., sweet, bitter, sour, salt, and the galvanic taste. Upon careful examination minute areas are found in which one of the qualities, sweet, bitter, sour, or salt, is perceived, and not any other, but the precise demarcation of these areas has not been definitely determined, and indeed probably varies widely in individuals. It is generally assumed that bitterness and sweetness are better perceived by the posterior part of the tongue, and sourness and saltness by its tip and edges. Almost nothing is known of the differentiation of sapid qualities by the soft palate and palatine arches. We are justified in believing that this physiologicial differentiation of the four qualities argues for a differentiation of anatomical structure, if not in the conducting fibres, at least in the terminal gustatory bulbs. Oehrwall,[1] who has made the most complete and latest contribution to the study of taste, carefully tested 125 papillæ upon his own tongue. All of them perceived touch and variations of temperature. Among these, 12 reacted to tartaric acid only; 3 to sugar acid only; 12 to sugar and tartaric acid only; 7 to quinine and tartaric acid only; 4 to sugar and quinine only.

In a matter still so obscure as the distribution and course of the gustatory parts, any study that will throw even a very feeble additional light upon it is welcome. Hence I take the liberty of reporting briefly the results of testing the sense of taste in two adult men whose tongues had been completely removed for epithelioma. Both patients were operated upon by Dr. James E. Kelly, at Charity Hospital, to whose courtesy I am indebted for the opportunity of examining them. I am also indebted to my house physicians, Drs. Van Rensselaer and Huber, for valuable assistance in making and repeating the observations.

Case I.—G. W——, aged forty, tongue amputated December 2, 1889. At first could taste little or nothing, but in a short time after the operation recognized sweets.

Careful examinations were begun in April, 1890, about four months subsequent to the operation. There was no anæsthesia to touch, heat, or cold in any part of the buccal or pharyngeal cavities. Precautions were of course taken to prevent the patients from knowing anything of the nature of the solutions used, and the parts were well rinsed after each application.

This patient was first given a mouthful of each of the following solutions to swallow: Sol. quiniæ sulph., 1 to 12, tasted bitter; syrup simplex, tasted sweet; sol. sodii chlor. (two per cent.), tasted salty; sol. acid tart. (five per cent.), did not recognize it.

Having determined that he recognized bitter, sweet, and saline qualities, but not acid, an attempt at localization was made by means of small cotton pledgets saturated with the sapid solution and applied to various areas on long silver probes. The results were as follows: A concentrated solution of quinine was feebly perceived as bitter on either side of the soft palate, but very strongly perceived when applied to the posterior wall of the pharynx.

Simple syrup produced no sensation on the soft palate, but presented its usual flavor when brought into contact with the posterior pharyngeal wall.

A concentrated solution of common salt was not perceived by the soft palate or by any part of the pharynx, but gave a mild salty taste when taken by the teaspoonful and swallowed. This would appear to indicate the presence of gustatory papillæ on the surface of the epiglottis, which have been assumed to exist there by several authors, but there were difficulties in the way of any exact localization. Tartaric acid in strong solution caused no sensation of taste in the soft palate, uvula, palatine arches, or pharyngeal walls. He spoke of a slightly sweetish sensation when the acid touched the posterior pharyngeal wall. In drinking lemonade the sweetness is perceived, but there is absolute failure of the sensation of sourness. Whiskey, swallowed in quantities, formerly delectable, produced a burning sensation, but had neither taste nor smell. He distinguished beer from whiskey by a mildly bitter taste of the former.

The galvanic current was then employed. At first sponge electrodes were placed on either side of the neck and a number of voltaic alternations given with ten Grenet cells. No taste was produced in the patient, although in myself a very lively and diffuse gustatory sensation was caused. Then a long double electrode of wire, in the form of a probang, the poles being isolated and one centimetre apart, was used to touch various portions of the buccal cavity, floor of the mouth, palatine arches, soft palate, and pharyngeal walls. A current from ten Grenet cells elicited a strong galvanic taste in myself, but the patient perceived nothing but a sensation of coldness imparted by the wire ends.

These experiments were repeated a number of times on different days and always with the same result.

A singular and almost inexplicable phenomenon in this case was the complete abolition of the sense of smell which followed the operation. Previously his olfactory sense had been perfect, but although months have now elapsed since the amputation of the tongue, the anosmia remains absolute. Such substances as iodoform, sulphuric and nitrous ethers, glyceritum fellis bovis, ergot, tar, sweet oil, oil of wintergreen, and valerianate of ammonia have to him no odor whatever, but aqua ammoniæ is readily recognized by its stimulation of the fifth nerve. It would be easy to understand how the perception of *flavor*, which is a quality compounded of both taste and smell, might be eradicated by the destruction of the taste component, but explanation of his entire loss of the olfactory sense is somewhat difficult. We must remember, however, that the sense of smell is the most easily disturbed of all of the special senses, very slight over-stimulation sometimes sufficing to destroy it; and it is possible that the long ether-inhalation or the later generous use of iodoform in such close proximity may have produced the anosmia in this case.

Case II.—P. K——, aged fifty, was examined two or three weeks after a total extirpation of the tongue. He said he could taste some of his food slightly "down in his throat." On swallowing simple syrup he spoke of a sharp, bitter taste. A concentrated solution of common salt produced a feeble salty taste. A solution of quinine caused a sensation of sharpness and bitterness. Acid solutions could not be tasted. This man had no disturbance of the olfactory sense except as regarded flavors.

Conclusions.—The perception of sourness was lost altogether in both of these cases after extirpation of the tongue.

[1] Studien och undersökuingar öfver smaksinnet. Af Hjalmar Oehrwall. Ups. Läk. Förhandl, Bd. xxiv., Nos. 6–7, 1889.

In Case I. bitterness was feebly perceived by the soft palate, strongly by the posterior wall of the pharynx; sweetness was not perceived at all except on the posterior wall of the pharynx; saltness was not perceived at all by either palate or pharynx, but probably by the surface of the epiglottis; the galvanic current produced no sensation of taste whatever.

Case II. was examined so soon after the operation that much cannot be determined with reference to the amount of permanent disturbance of taste. Besides the loss of sensibility to acids, he did not recognize sweets.

201 West Fifty-fourth Street.

ANOMALIES OF THE CORD.

By HARRIS FISHER, M.D.,

EASTMAN, GA.

Case I.—During the present year I was called to attend Mrs. A——, the mother of three living children, and in labor with her fourth. The parturition was uneventful, child large and thrifty, and breathed and cried in the usual order. In the middle of the cord, however, was a knot which I would fain describe, but must confess in the beginning that nothing in the way of medical reporting ever troubled me so much. It was a puzzle in its details, and still simple to contemplate as a whole. It resembled strikingly the rectangular arrangement so often seen in a white-oak chair-bottom, or as the same material is interwoven in basket work.

The arrangement may be closely imitated by plaiting the index- and the middle-fingers of the respective hands, as follows: Let the index-finger of the right hand pass under the index-finger of the left, and rest on the dorsum of the middle-finger of the left; at the same time let the middle finger of the right pass across the tip of the index-finger of the left and rest beneath the tip of the middle-finger of the left. While the rectilinear arrangement of the body of the knot can be closely imitated in this way, the attempt to reproduce it with a continuous rubber cord proved utterly futile. The points of super-imposition had a slightly worn or much-used look. As to the mode of the formation of these knots, there are two theories: that they are created by the movements of the child, and that they are developed in the shape in which they are found. In the simple knot the first theory might obtain. In the complicated, to which this one belongs, the conviction is instantaneous that it was so developed.

In Charpentier's "Obstetrics" we have an array of these departures from the normal that would seem ample to cover any instance likely to occur in the experience of the general practitioner.

He gives five distinct varieties, some of them shown at different stages of development, making in all eight illustrations, but none of them conforming in any considerable degree to my case. He classifies knots of the cord into simple and complicated, single and multiple.

Lusk gives only one plate in illustration of knotted cords, a multiple, and one of the same, Leyman's, given by Charpentier. Mine would be a variety of the multiple, *multiple rectangular*—why not?

Case II.—Within the same month I was called by a negro midwife to a prolific sister of her own color, who had just been delivered of a still-born child. The main intent of her sending was to have me examine the cord, and, as she hoped, vindicate her from being in any way responsible for the death of the child, for the mother declared the child was alive up to a period just before delivery. Appearances sustained her. There was every indication and appearance of a child well grown, at term.

The labor, as well as I could learn, was quite normal, and the mother was doing nicely. My attention to the cord was especially invoked, and I saw before me a rope of very slightly yellowish fat. Length usual. In the middle of its continuity there was an enlargement strikingly sausage-shaped, six inches in length, almost round, a little tapering to a blunt termination, and one inch in diameter. The twist of the cord, so often noticed, was entirely effaced. The corded feeling in the normal structure was scarcely apparent upon the firmest pressure.

Subsequent section and dissection revealed the fact of a complete fatty degeneration of all the parts that make up the cord, from its umbilical origin to its placental expansion, and inclusive of the same; for the fœtal side of the placenta had a thin but distinct layer identical with the tissue of the cord. The sausage-like aneurismal enlargement proved to be a very firm clot of brightish-looking blood, more suggestive of arterial than of venous origin, encased in the amniotic and chorionic layers of the cord.

Evidently, as the history of the case would seem to bear me out, some strain upon the fragile cord just before the birth of the child, ruptured one of the arteries and produced this apoplexy of the cord, cutting off the circulation. Upon a careful exploration of this long clot it was impossible to trace a vestige of any of the vessels. Upon a section of the fatted cord, on either side, the smallest bloody points indicated the severed vessels. Splitting the cord and spreading it out on a smooth surface, the slightest striated appearance indicated the track of the vessels in a tissue strikingly homogeneous.

The most interesting fact in this singular case was the conservatism of its pathology. It is something unique, in this sweeping metamorphosis, that it should have gone on so nearly to completion, involving the vessels alike, and still leaving them competent to carry on the circulation to the hour of birth; and, but for the timely assistance of a physician that was wanting, sufficient for the life of the child. There was every reason to believe that the use of the most ordinary means would have brought about resuscitation.

Of recent works on anomalies of the cord I have convenient for reference only Lusk and Charpentier. The former, Lusk, disposes of the whole subject of degeneration of the cord in two lines, merely announcing the fact of "calcareous degeneration." Charpentier gives us twelve pages on "The Cord," profusely illustrated. Speaks of rupture (severance) of the cord as a possibility in the third stage of labor, but makes no allusion to tissue degeneration and ruptured vessels.

In Pepper's "System of Medicine" there is a deep and instructive article by Reginald Fitz, M.D., on "Degenerations," fatty and others. In this he alludes incidentally to degenerations of various organs and tissues, but nowhere cites the umbilical cord.

I forbear to occupy further space upon a subject of no more practical importance, with the calling special attention to the fact that, notwithstanding the composition of the cord—arteries, veins, Wharton's jelly, and the amnio-chorionic envelopes, differing tissues and organs wound one upon the other—the degenerative invasion was complete, passing all boundaries. Further, that a diligent search in medical literature, current and old, is not likely to produce a similar case.

Iodoform Injections in the Treatment of Cold Abscess.—Dr. Jasinski, of Cracow, has treated eighty-six cases of cold abscess by means of injections through a trocar of iodoform emulsion, with encouraging results. A certain number were cured by a single injection, others after two or three injections. In eleven cases after the injection the abscess broke, a large quantity of pus mixed with iodoform being discharged. These were all cured without any further surgical interference. In nineteen cases an incision had to be made; the cavity was then washed out with carbolized water, iodoform emulsion injected, and the wound sewed up after a drainage-tube had been inserted. In some of these cases the injection had to be repeated several times. Though one hundred and eighty grammes of a ten per cent. emulsion were injected at once, no toxic symptoms were ever observed.—*Lancet.*

INTUBATION OF THE LARYNX IN DIPHTHERITIC CROUP.

By F. W. LESTER, M.D.,

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THE success of any operation, we must admit, depends largely upon the subsequent management and treatment of the case, whether complications by sequence or accident present themselves or not. A fatal termination of an operation skilfully and brilliantly performed may be due to such causes; the value of the operation, however, will be determined by results rather than by possible methods of procedure.

Intubation has been practised, and it has become a recognized fact, and doubt no longer exists as to it being a life-saving agent, if not the best means at our command for fighting that formidable disease—diphtheritic croup, or membranous laryngitis.

In the hands of a skilful operator the operation is simplicity itself, and can be performed in an instant—a desideratum which commends it. Better results can be obtained in hospitals than in private practice, especially in one properly equipped for the operation, for the nurses in attendance, by reason of special training and long experience, acquire great skill in the after-management of the cases. It is exceedingly painful to observe an inexperienced doctor and nurse at the operation, the one unable to locate the larynx, and the other unconsciously letting the patient slide down off her lap, and after considerable digging and ploughing into the inflamed soft parts of the throat, the tube lets go and finds its way into the œsophagus, an appalling and embarrassing situation for all concerned, and thus it is that an unskilful attempt and absolute failure at the performance of any new operation engenders doubt and positive resistance in the minds of the laity, and adds additional momentum to that feeling of hostility toward a truly scientific and successful procedure.

The operation should never be attempted, except by an experienced operator. The introduction of the tube gives instant relief from the stenosis, except in rare instances where the case is hopeless by reason of excessive membranous deposit and purulent exudation below the bifurcation of the trachea, and in such an exigency all other resources are inexpedient, for tracheotomy in this event would avail nothing more. Yet in no case, no matter how desperate and hopeless it may seem, do I hesitate to do an intubation, for I recall one successful case in my experience where a rapid exfoliation of membrane occurred upon the insertion of the tube, the tube itself assisting in the dislodgement of the membrane, but further occluding the trachea by pushing it downward, and rendering obstruction complete for an instant, but which the immediate withdrawal of the tube relieved by removing with it a perfect cast of the trachea and a considerable portion of the right and left bronchi. Not a single death has occurred in any of my cases during the operation.

In some cases it will be found that the calibre of the tube is too small to permit of very large pieces of detached membrane being discharged through it by any effort the patient may make at coughing; but for this emergency we have at our command Dr. O'Dwyer's large-calibre tube, designed for temporary use only, and through which the membrane finds a ready exit if the patient is able to expel it. This tube is somewhat more difficult to introduce, and may do harm to the larynx if not properly inserted before the obturator is withdrawn, for it has quite a sharp extremity. While intubation has furnished us with a valuable alternative in the treatment of diphtheritic croup the operation should never be performed until all other measures fail and the stenosis urgently demands it. I have observed several recoveries in this hospital which have occurred without operative interference, though the patient's condition at times seemed grave enough to warrant operation; the apparent extreme obstruction was transitory only, and was relieved by emetics and other treatment. Much depends on the management of the case, which, from the start, requires increasing vigilance lest temporary obstruction, due to loose membrane in the trachea and tube, cause asphyxia and death, which may be averted by opportune administration of emetics and the removal of the tube temporarily, or by substituting the large-calibre tube.

The presence of membrane on the tonsils, posterior nares, and pharynx, and enlargement of the cervical lymphatics, amounting sometimes to great puffiness of the whole neck, presents a fatal aspect to the case when those lesions are excessive, for in such cases we will most likely have nephritis, sepsis, exhaustion, and sudden heart failure due directly to the long continuance of the disease and its specific poison.

On the other hand, in those cases in which the above lesions are present to only a moderate degree the prognosis is rather more favorable than when laryngeal diphtheria occurs as a primary disease and is unattended by an invasion of other parts of the throat and nasal passages, for, as is usually the case, the exudate forms rapidly and copiously, distributing membrane which obstructs the larynx and trachea at very short notice; and from this fact it will appear that a condition is present at the seat of disease favoring active growth of the morbific element; hence the march of the disease is too rapid to be arrested by means at present at our disposal.

I have purposely omitted arranging a table according to the duration of the laryngeal symptoms before operation became imperative, as it was found impossible to obtain reliable data bearing on this all-important point in every case, owing to the inability of mothers to speak English, and in some instances nobody seemed to be responsible for a history. So the stand I take is based on the cases which actually came under my own observation.

The question of treatment is an all important one, both general and specific. For the latter the plan laid down by Professor A. Jacobi, namely, iron and potash mixture in small doses every half-hour, and the bichloride of mercury (gr. $\frac{1}{4}\frac{1}{0}$ to $\frac{1}{6}\frac{1}{0}$ every hour) has been adhered to, and excellent results have been attained by this course of medication, as the statistics below will show. For general treatment we can not look to any routine plan, as every case should be treated on general principles. For instance, high fever should be reduced by sponging and bathing, weak heart and collapse promptly treated by stimulants and heart tonics, and urgent reflex symptoms, as vomiting, checked if possible. A liberal use of stimulants and nourishment must be maintained throughout the disease, for we are dealing with a poison which may become septic in character. There is danger of giving too little stimulants rather than too much; in the septic form I have given a child, five years of age, eight ounces of whiskey in twenty-four hours without inducing alcoholic intoxication. Nephritis, when it is present, should always engage the solicitude of the physician and be speedily met by appropriate treatment. Pneumonia is also a dangerous complication, but it does not recur often.

For the first six months of 1889 twenty-three operations were performed, of which 9—or thirty-nine per cent.—recovered. Males, 14; females, 9. Average age, three years five months. Average age of those that died, two years eleven months; of those that recovered, four years two months. Albumin was present in the urine in 10 cases, not present in 1 case, and specimens could not be obtained in 12 cases. In fatal cases the average duration of life after intubation was four days. In cases of recovery the average time of tube in the larynx was six days eleven hours.

For the second six months of 1889 seventeen operations were performed, of which 8—or forty-seven per cent.—recovered. Males, 13; females, 4. Average age, three years eleven and one-half months. Average age of those that died, two years nine months; of those that re-

TABLE I.—*Refers to the Number of Deaths from Each Cause.*

		Extension to Bronchi.	Sepsis.	Pneumonia.	Exhaustion.	Nephritis and convulsions.	Sudden heart failure.	Extension and pneumonia.	Asphyxia.	Tuberculosis	Total.
First six months of 1889....	Number of cases	3	.....	1	4	2	2	1	1	.....	14
	Per cent. of total number	13	.....	4.35	17.3	8.7	8.7	4.35	4.35	.....	61
Second six months of 1889..	Number of cases	2	1	.....	2	.....	.....	.....	3	1	9
	Per cent. of total number	11.8	6	.....	11.8	.....	.....	.....	17.6	6	53
First six months of 1890....	Number of cases	.....	2	3	.....	.....	3	2	1	.....	11
	Per cent. of total number	.....	11	17	.....	.....	17	11	5	.....	61

TABLE II.—*Refers to the Percentage of Recoveries Accoraing to Age.*

		Under 1 year.	1 year and under 2 years.	2 y'rs and under 3 years.	3 y'rs and under 4 years.	4 y'rs and under 5 years.	5 y'rs and under 6 years.	6 y'rs and under 7 years.	7 y'rs and under 8 years.	8 y'rs and over.	Total.
First six months of 1889....	Number of cases	.....	3	8	2	4	4	1	.....	1	23
	Percentage	.....	.....	25	100	50	25	100	.....	100	39
Second six months of 1889..	Number of cases	.....	5	3	1	4	.....	1	1	2	17
	Percentage	.....	20	33¼	100	50	.....	100	.....	100	47
First six months of 1890....	Number of cases	2	5	4	4	1	.....	2	.....	.....	18
	Percentage	100	.....	.....	50	100	.....	100	.....	.....	39

covered, five years four months. Albumin was present in the urine in 7 cases, not present in 1 case, and specimens could not be obtained in 9 cases. In fatal cases the average duration of life after intubation was three days sixteen hours. In cases of recovery the average time of tube in the larynx was five days twenty one hours.

For the first six months of 1890 18 operations were performed, of which 7—or thirty-nine per cent.—recovered. Males 10; females 8. Average age, two years seven months. Average age of those that died, two years; of those that recovered, three years five months. Albumin was present in the urine in 3 cases, and specimens could not be obtained in 15 cases. In fatal cases the average duration of life after intubation was two days thirteen hours. In cases of recovery the average time of tube in the larynx was six days ten hours.

Clinical Department.

A CASE OF HEMI-GLOSSITIS PHLEGMONOSA.

BY CHARLES H. KNIGHT, M.D.,

NEW YORK.

THIS seems to have been a case of what has been called by Craigie "lingual quinsy," in other words, an acute inflammation involving the base of the tongue as well as the tonsil. The patient was a boy, fourteen years of age, evidently very poor, who came to my clinic at the Post-Graduate Medical School, June 14, 1890. He could hardly speak intelligibly, but we were able to learn that he had had "sore throat," gradually getting worse, for four days. He felt chilly, but had had no well-marked chill. Odynphagia prevented him from eating, even the attempt to swallow fluids being very painful. Salivation was extreme. The gums were red, swollen, and sensitive, inclined to bleed, and along their dental margin there was a line of adherent secretion, almost like pseudo-membrane. The jaws could barely be closed without biting the tongue, the border of which was deeply indented and eroded. The tongue was absolutely fixed; it could not be protruded nor could its tip be raised. Its dorsum was covered by a thick "fur." The odor of the breath was almost intolerable. Buccal temperature was 101° F. The left half of the tongue was not affected. The right side was much thickened, was very hard and resistant, and on passing the finger well back to the base a point of extreme sensitiveness was found. Fluctuation could not be detected. It was difficult to explore the oro-pharynx, but both tonsils were seen to be large and inflamed, and the whole faucial region was very red; but there was no indication of abscess.

Another striking feature of the case was the extraordinary submental swelling. The tissues from the point of the chin to the hyoid were tense, brawny, very sensitive, and swollen. In the expectation that the tongue might need to be scarified, I sent the boy to the Manhattan Eye and Ear Hospital, ordered a calomel purge, the external application of ice-bags, and the use of a cold carbolized mouth-wash. The next day the symptoms were somewhat worse, and I substituted, for the cold treatment, hot flaxseed poultices and frequent irrigation of the mouth with hot water. In my visit the following afternoon, I found that the abscess had ruptured during the morning. It was impossible to estimate the quantity of pus discharged, but it was sufficient to saturate the pillow on which the patient lay. All the symptoms were almost immediately relieved. The swelling beneath the jaw had disappeared; the tongue was still sensitive and stiff, but to a much less degree. The patient could speak more distinctly, and was anxious to try to eat something. From this time he steadily improved, and on the seventh day he left the hospital.

The point of rupture of this abscess could not be exactly determined, in this respect differing from a similar case reported by myself five years ago (MEDICAL RECORD, July 25, 1885). In the latter case the opening was found and a bent probe could be made to enter the abscess cavity.

The etiology of this, as of many kindred cases, is more or less obscure. There is no history of traumatism or of special exposure. The development of the lesion was doubtless encouraged by privation and poor food.

Progress of Medical Science.

Significance of Difference between Two Radial Pulses.—One by one erroneous notions are corrected by more careful observation. From the time of Marey, whose name is inseparably connected with the sphygmograph, it has been the common belief that a difference between the two radial pulses in the same patient is highly significant of aneurism of the aorta, or of one of the great vessels coming off from it. It is true that in some cases of aneurism of these vessels the pulse in the affected side is felt to be retarded, and to differ in volume and in tension from that of the healthy side. The sphygmograph records much more accurately the condition; it shows a low, sloping up-stroke, a rounding of the summit, and a more gradual descent than in the pulse of the unaffected side, the tracing being wave-like. But it appears that this condition of the pulse, and the sphygmograph, which has been regarded as characteristic of aneurism, is not due to aneurism *per se*, that it may be present in the absence of aneurism, and may not be present when aneurism exists. According to Ziemssen, it is the result of a narrowing of the artery—innominate or subclavian, as the case may be—and while it may occur in aneurism, as the result of pressure, for example, it is most frequently the result of arteritis deformans, an atheromatous condition

of arteries which frequently results in narrowing of the vessel. Ziemssen gives brief notes of eight cases; in four of them the pulse-tracing which has been believed to be characteristic of aneurism was present, but there was no aneurism, the lesion, as proved by autopsy, consisting of a narrowing of the mouth of the subclavian artery as the result of arterio-sclerosis. In the remaining four cases, the pulse-tracing of the two radials showed no essential differences, but there were manifest physical signs of aneurism of the arch, such as pulsating tumor, paralysis of the recurrent laryngeal nerve, etc.; in one of these cases the diagnosis was established by autopsy. The fact that stenosis of the great vessels may produce the difference in the pulses in question has not altogether escaped observation by other writers. Quincke hints at it, and Broadbent reports a case in which the lesion was actually discovered post-mortem; but he speaks of it as a "remarkable case." Arterio-sclerosis of the aorta is much more common than aneurism of the arch; it should, therefore, be very easy to confirm the statements of Ziemssen. The subject is of importance in prognosis as well as in diagnosis, and we hope it will receive attention on this side of the water.—*Medical and Surgical Reporter*, July 19, 1890.

Panbotano as a Substitute for Quinine.—Panbotano, of the family of leguminose mimosæ, is a tree indigenous to Mexico. Although it contains neither alkaloid nor glucoside, an alcoholic extract has been employed by Dr. Valude in the treatment of malarial fevers. The preparation which the author employed was made by macerating 70 parts by weight of the crushed bark in 1,000 parts of water which was boiled down to one-half the volume. Of this one pint might be taken in twenty-four hours by the patient. Dr. Valude has published notes of fifteen cases in which this remedy had been administered, of whom eight were affected with intermittent fever, and which are the only ones of interest in this connection. It is claimed that in 88 cases a single dose, or in some cases two doses, were sufficient to prevent the febrile access. The remedy is stated to be tolerably well borne, although in some cases a certain amount of vomiting is stated to be produced. These unfavorable effects, however, were avoided when the medicine was given on an empty stomach. These clinical results admit of no physiological explanation, and the absence of an alkaloid in the plant, and the small number of cases reported by the author, go far to detract from the reliability of the results which were claimed to follow its administration. For a long time numerous substances have been proposed as a substitute for quinine, but as yet no one substance has succeeded in filling the bill. As to whether panbotano will prove more successful than other substances remains yet to be seen, though we must confess that we possess considerable scepticism in the matter.—*The Therapeutic Gazette.*

Cancer of the Rectum and Pregnancy.—Dr. Löhlein, of Giessen, having under his care a case of this kind, induced premature labor eight weeks before term. A fort night later, the rectum was successfully excised. The author also discussed the merits of the line of treatment which was pursued in this case. He maintained that waiting was wrong in any case of cancer. Operations on a pelvic organ during pregnancy entailed unusual danger from hemorrhage, difficult to check under the circumstances. Abortion—a very probable result—would disturb the operation wound. Therefore he held that when rectal cancer was diagnosed in a pregnant woman, labor should be induced, and an operation performed on the rectum as soon as possible. A serious accident occurred in connection with the case above mentioned. It caused a puerperal epidemic, whereby two newborn children died of erysipelas and a lying-in patient had severe fever which fortunately did not prove fatal. This accident proved that, in lying-in hospitals, there may be other sources of infection besides the discharges, excreta, and exhalations of parturient women. New growths, beginning to break down, may escape the vigilance of trained midwives.—*The British Medical Journal.*

Salicylate of Sodium in Cholelithiasis and Pleurisy.—Professor Stiller, of Buda-Pesth, has used salicylate of sodium as a cholagogue for five years, and has found it better than any other drug in rapidity and certainty of effect (*The British Medical Journal*). He gives the following illustrative case, which is one out of many: A man, aged fifty, had suffered for about four months almost daily from severe bilious colic, and had been jaundiced for about three months. Rigors, with a high temperature frequently occurred. He was so emaciated that his appearance suggested cancerous cachexia. The liver was enlarged and resistant, but smooth. The gall-bladder could not be felt. After a week's treatment with salicylate of sodium the pains and fever disappeared, the icteric color decreased, vomiting ceased, and after a four weeks' stay in the hospital he was dismissed cured. The details of the mode of treatment are as follows: Half a gramme of the salicylate was given four times a day. It was given in half a glass of soda water, or any other alkaline water—never in wafers, as these increased the gastric irritation. Usually 0.01 gramme of the extract of belladonna was added to each dose, as a non-constipating anodyne. Linseed poultices were applied over the liver. The patient was kept on moderate diet for several days, and alkaline water, free from iron, was given as beverage. Occasional pains were relieved by injections of morphine. Carlsbad and Vichy water was ordered by way of after-treatment. The cholagogue properties of the drug had also been proved by experiments on animals. In cases of pleurisy. Professor Stiller has noted a very striking diminution of the effusion when salicylate of sodium was given. Absorption occurred in a surprisingly rapid way, and Dr. Stiller recommended the drug, even for diagnostic purposes, as excluding the purulent character of the exudation. From three to four grammes in solution were administered daily, a spoonful being given every hour or two hours. The primary effect, no doubt, was on the kidney, and the increased secretion of urine favored absorption. It was only recently that he had observed, that the quantity of urine was increased from 650 to 2,000 and even 2,300 c.c. under the influence of salicylate of sodium. The drug was also useful in sciatica.

Prophylaxis of Impotence in Olden Times.—A favorite method of revenge practised by a discarded lover, in ancient times in France, was to conjure impotence upon his successful rival. All that was necessary was to take a linen thread or a skein of flax and knot it in a peculiar way known to those who cultivated the black arts, singing at the same time a curse upon the victim. The latter would then find himself in a sad predicament, powerless to consummate the marriage which he had entered into. But the remedy was always at hand, for the bride and groom had but to repair to the priest and kneel before him side by side in such a way that the hip, knee, and elbow of the one pressed so closely against the same parts of the other that the finger could not be insinuated between them. This was useful as a remedy, but the husband might avert the calamity entirely and dissolve the spell if he had reason to fear that it had been imposed upon him. The way to do this was simply to urinate through the wedding-ring, which had, of course, been blessed during the marriage ceremony.

The Doctors Have Themselves to Blame.—Philadelphia is said to contain about one million people, more comfortably cared for than the people of any other city. Yet it is also said that two hundred and fourteen thousand of these receive pauper medical services. This is exclusive of private dispensaries, or the multitude treated by doctors free in their private practice. All this is due to the fact that doctors have taught the people that they desire to work for nothing.—*American Lancet.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, August 30, 1890.

RUNNING TO EXTREMES.

Is it not about time to halt a while in our restless search after the microscopical accompaniments of certain diseases, and pause to consider what we are accomplishing, and whether there is not some danger of becoming men of one idea, narrow to the extreme in our conception of what disease actually is, and of how we ought to combat its ravages. It may be that we are no different from other men, yet it would seem as though medical men might be justly called the Athenians among men of science, in that they "employ themselves in nothing else, but either in telling or in hearing some new thing," and when they have found that new thing they let everything else go and cling to that alone. It is thus with the study of bacteriology. It has been ascertained almost to a certainty that the tubercular process, for example, is associated with a certain form of microscopic growth which is not found as an accompaniment of other diseases. It is therefore assumed, correctly no doubt, that this micro-parasite is the cause, either directly or indirectly, of tuberculosis. Other microbes have been found in relation with other diseases, and it has also been assumed that a causal nexus exists. This is well enough, it is a plausible theory, and one that offers great hope of advance in the therapy of certain diseases, and if it does not blind us to the actual necessities of treatment and lead us to neglect the plain indications while running after some specific microbicide, there is no objection to its further study and amplification. But here is where the tendency of mankind, in general, and seemingly of the medical profession, in particular, to ride a hobby to death betrays itself. Some are not satisfied in accepting what has already been proven, but they must assume what remains to be, and which possibly never will be proved. They look for the bacillus in every departure of the human organism from health, and they run a serious risk of making themselves, as well as the science which they study, ridiculous. Not long ago it was gravely announced in an Italian journal that some one had discovered the bacillus of old age. Of course that was intended as a joke, but so ready at the present day are some minds to see the infinitesimal in pathology that not all could see the joke, and several medical papers reproduced the item containing the announcement of the great discovery in all seriousness, never for a moment seeming to see in it anything but the most natural discovery, and one that would explain many of the lesions found in those of advancing years. But there are other things put forward in good faith which are almost as ridiculous. Not long since a Russian investigator examined the water obtained from melted hail-stones, and found it to contain several varieties of bacteria. There was nothing very remarkable in this discovery, for it would have been strange had no bacteria been found, but what was remarkable was the conclusion which the man drew. He thought it very probable, since rain, snow, and hail had all been found to contain micro-organisms, that there was a specific, and hitherto undescribed, disease to which only those were liable who had been exposed to a storm and had been wet to the skin by water containing these peculiar bacilli. It is not the search after microbes that is absurd, but the conclusions which many run to without first establishing their premises. We are not yet in position to assert that there can be no disease without its specific micro-organism, and those who do so maintain are in danger of making their science a subject of ridicule to men whose range of vision extends beyond the microscope field. They also interfere with therapeutic progress by turning men's minds away from the phenomena of diseased action and hunting after an invisible foe, which may after all be found to have less power for evil than it is now credited with.

THE RESPONSIBILITY OF THE PHYSICIAN FOR EXPERIMENTS UPON PATIENTS, EVEN WITH THE LATTER'S CONSENT.

A CASE was recently tried in a Cincinnati court in which the conditions were rather peculiar, and in which the finding of the judge was of interest to others than the one directly concerned in the matter. It seems that a physician of that city was sued by a man who claimed to have been injured by experiments with the elixir of youth. The man had been paralyzed for some time, and could get about only with much difficulty. The physician called him in as he was hobbling past his office, and proposed to try the effect of the "elixir" on his paralysis. The old man consented, and a charge of the stuff was injected into each leg. The result was that an abscess formed on his paralyzed leg, from which he suffered greatly.

The patient did not apply to the doctor for treatment, and the doctor made no charge for what he did. It was an experiment, attended with danger, which the doctor was eager to make, and the patient, with perhaps a limited understanding of the matter, seemed willing should be tried.

It was contended by the defence that the case was not one of malpractice, nor could it quite be called an assault, and it fell short of the definition of a tort. Although the sufferings of the patient might be directly traceable to the doctor's act, yet it was a question whether the doctor did anything of which the law could take cognizance.

The jury, however, brought in a verdict against the defendant, assessing the damages at seventy-five dollars. The judge charged the jury that it is not malpractice where a physician treats a patient upon his own motion and without pay, but the physician is bound to use ordinary skill even under such circumstances, and if he does not use such skill, or is guilty of carelessness, he is guilty of a tort for which he is liable in damages.

We are sorry for the physician who was obliged to pay damages, yet the decision seems to be a just one. It will serve, at any rate, as a useful warning to others not to experiment carelessly with any medical fad that may be proposed, before they know anything about its merits or its dangers.

FURUNCULOSIS AND POLYURIA.

THE coincidence of diabetes mellitus and furunculosis is so often observed, that there are few now who doubt that there is some causal relation between the one and the other. In regard, however, to diabetes insipidus the belief has been less general; indeed, it has been denied by many that there was any liability to the occurrence of furuncles or carbuncles in the subjects of simple polyuria. Some recent writers, however, have stated as their belief that furunculosis is a frequent accompaniment of simple diabetes, and this view receives some confirmation from a case reported in the *Centralblatt für Klinische Medicin*, No. 21, 1890, by Dr. Lowinsky. The case was one of diabetes insipidus occurring in a workman, aged fifty-six. After he had suffered for some time from the ordinary symptoms of this affection, he began also to be troubled with numerous crops of boils which returned again and again in spite of the most varied treatment. There was no cause for this to be discovered, and traumatism was readily excluded. The author, in searching through the literature of the subject, found many similar cases in which furunculosis appeared without any apparent exciting cause in the subjects of diabetes insipidus, and he comes to the conclusion that there is here also some etiological relation which has as yet not been traced, but which nevertheless exists.

IGNORANCE AMONG ENGLISH MEDICAL MEN.

SOME of our friends on the other side of the water have enjoyed themselves not a little during the past year or so in exchanging anecdotes about American physicians, whom one and another have met on their travels, and who were not perhaps noticeably erudite. Some of the tales related in the British journals may have been true, for we are well aware that there are practitioners of medicine in this country as well as in others who, sensible and practical physicians though they are, are yet not cultured. But it ill-becomes our English confrères to sneer at American physicians when they themselves are so vulnerable. The samples of British doctors that are sent over here in the capacity of ship surgeons for our inspection, are not all specimens to boast of. We referred not long since to the complaint of the Health Officer of the Port of New York, concerning the inefficiency and gross ignorance of many of the surgeons employed by the transatlantic steamship companies, and recently this fact was emphasized in Boston, when an English vessel brought over a leper from Liverpool. The woman had been allowed to enter England and then to board the steamer at Liverpool, the medical officers of the Board of Trade, as well as those of the steamship company, having had no suspicion apparently of the nature of the disease. It was reserved for ignorant Yankee doctors to detect the leprosy and to return the patient properly labelled to England. The health authorities in Glasgow have called attention to the fact that in nearly eight per cent. of the cases of supposed contagious disease sent to the fever hospital by the physicians of that city, there was a mistake in the diagnosis, and many of the patients were found actually to be suffering from no contagious disease at all. Really we think the display of a little modesty, not to say humility, by our English "cousins" would be not at all unbecoming.

MALARIAL INOCULATION AND THE INTRAVENOUS INJECTION OF QUININE.

EVER since Gerhardt first produced typical intermittent fever in the human being by the direct transfusion of a little blood taken from a malarial patient, similar observations have been from time to time recorded. Recently Dr. Gualdi, working under the supervision of Professor Bacelli, of Rome, has instituted a new series of investigations touching the subject of malarial inoculation. It was found that the blood of a malarial patient injected into the veins of a healthy subject invariably produced paludal infection. The quantity of blood used for each injection was small, and did not exceed sixteen minims. It was further ascertained that the incubation period did not vary, and lasted just twelve days.

An interesting circumstance was also noted in the fact that the precise type of the patient's disease was reproduced in the inoculated persons. That is to say, if blood was taken from a patient suffering from quotidian ague the inoculated subject would develop quotidian intermittent fever; if quartan, a quartan type would follow; a tertian fever always induced tertian ague, etc.

The blood of an inoculated person invariably showed the presence of the plasmodium described by Marchiafava and Celli, and what is more, the stage of evolution of the plasmodes corresponded to the type of the disease.

Dr. Gualdi asserts that the crescentic bodies known as Laveran's plasmodes, which have been repeatedly found in the red blood-corpuscles by different observers, represent but a late stage in the development of the Marchiafava and Celli organism. If this be true it would harmonize in a plausible manner the hitherto somewhat conflicting claims of these Italian authors. The parasitic nature of the plasmodes admits of no doubt, according to Gualdi.

Professor Bacelli has also instituted a number of therapeutical experiments. As might have been expected, the most convincing and satisfactory results were obtained with quinine. In pernicious malarial fevers, gastric and subcutaneous resorption are much interfered with. Accordingly quinine was injected directly into the veins. A prompt effect was seen. But as much as fifteen grains of the hydrochlorate of quinine were administered in this way before decided amelioration occurred. No unpleasant consequences were observed to follow this procedure. The formula employed by Dr. Bacelli was as follows:

Quin. hydrochloric.....	1.0 gramme.
Sod. chlorid.....	0.075 "
Aq. destillat.....	10.0 grammes.

He directs that the fluid is to be filtered, warmed, and injected into a vein of the forearm, under strict antiseptic precautions.

The success of this method of treatment is said to depend in large measure upon the time of injection. If the injection be given before the febrile attack has already begun, even fifteen grains will not suppress the paroxysm. So, too, when practised during the acme of the seizure defervescence is not hastened. The most suitable time is the period of natural subsidence of the febrile movement. Given at that time, the next anticipated attack is either entirely suppressed or considerably reduced in intensity.

In subcontinuous fever injections practised during defervescence are particularly efficacious.

But in spite of the good results thus obtained Dr. Bacelli is not an advocate of the indiscriminate application of the intravenous method. For, says he, in ordinary malaria thirty grains of quinine given by the mouth or injected subcutaneously, usually fulfil every indication. It is only when quinine is found inert if administered this way, and more particularly in the pernicious forms of fever, that he strongly urges the intravenous injection of the drug.

News of the Week.

Cholera is still spreading along the coasts of the Mediterranean. The London case is stated to have been merely an instance of cholera morbus. On the other hand, some decidedly suspicious cases have been reported near Berlin. In the South of France it is also quite likely that the disease has gained a foothold, although the local authorities have made strenuous denials. The near approach of cold weather will serve, however, to reassure timid people on this side of the Atlantic.

The Relative "Wages" of Physicians and Mechanics.—The Eastern Dispensary of New York pays its physicians for daily service $200 a year, or nearly 33 cents an hour. The Eastern Dispensary is a pioneer institution in medical generosity. This is good, but less than carpenter's wages. The appointments are made after competitive examinations, and are eagerly contested. There are many "contract doctors" who work for much less than this.

The Startling Excess of Medical Charity in Edinburgh.—Almost one-half of the people of Edinburgh, Scotland, receive their medical advice gratis. The *Scotsman* has published some authentic figures, which may or may not, but certainly should, afford food for reflection to those who have the best interests of the profession at heart. "The population of Edinburgh is little over 236,000, and that of these, 103,095 should be entirely dependent on charity for medical advice is evidence of a rather discreditable want of self-reliance and providence among the working classes. Nor is this all. The number of persons who in any year actually avail themselves of such aid must of necessity be smaller than the total number who would do so were they forced by sickness or accident, and it looks as if more than half the population were in the habit of expecting medical treatment gratis." In the city of New York wealthy hospital magnates are fast teaching the people the lesson that they have already learned in Edinburgh. The final outcome of this pernicious system is needlessly degrading to the populace, at the same time that it saps the strength of the profession. Such indiscriminate "assistance," instead of diminishing, will inevitably augment, pauperism. Only the paupers of the future will be the doctors, who are sure to be ground to death between the upper millstone of free advice for all classes, and the lower one of large fees for a few fashionable specialists. But "What are you going to do about it?"

Homœopathic Hospitals.—Michigan is not the only State that contributes money for the erection of homœopathic hospitals. Connecticut has lately contributed $30,000 for the erection of such in New Haven.

Perfectly Justifiable Charges.—Lawyers always charge for time consumed in the interest of their clients. Dentists charge for time. But when a mere doctor attempts to do so, the collector has a hard time of it. Here is a case in point, reported in the *London Daily News*. A case about doctors' fees has just been decided at the Liverpool Assizes. Dr. Day sued Mr. L——, a tenant farmer, for £365 6s. Mr. L——declared the charge excessive, and he paid £180 5s. into court. Here is an "item" in Dr. Day's bill: "Long conversation with Mrs. S—— on behalf of Mrs. L—— with regard to the use of some quack remedy which she recommended and I declined, 10s. 6d." Half a guinea for gossiping with Mrs. S—— about his patient, Mrs. L——! "You needn't have done it," observed cross-examining counsel, plaintively. There was also an entry of 7s. 6d. for "writing a letter to a specialist" about his patient, Mrs. L——. "Worse than an attorney; he would only charge 6s. 8d.," remarked Mr. Justice Smith, amid loud laughter. Several medical witnesses said that Dr. Day's charges were, under the circumstances, too high. The jury found a verdict for Mr. L——. Dr. Day is to receive only the balance of the £180 5s. after the defendant's costs have been taxed.

Medical Examiners of New Jersey.—Governor Abbett, on August 19th, appointed the following physicians, who are to constitute the New Jersey State Board of Medical Examiners: *Regular Physicians:* Dr. William P. Watson, Hudson County, to serve for two years; Dr. George W. Brown, Monmouth County, for three years; Dr. W. L. Newell, Salem County, for one year; Dr. Henry S. Wagner, Somerset County, for one year; and Dr. Hugh C. Hendry, Essex County, for one year. *Homœopaths:* Dr. A. Uebalacker, Morris County, to serve for three years; and Dr. A. H. Worthington, Mercer County, for one year. *Eclectic*: Dr. Eugene Tiesler, Essex County, to serve for one year. The Board will meet for organization on Tuesday, September 2d.

Effect of the Pasteur Institute in Paris.—In the first five months of 1888 there were two hundred and eighty applicants at M. Pasteur's laboratory from the department of the Seine alone, all of whom had been bitten by dogs either known to be rabid or suspected of being so. This number was but little short of the corresponding total for the whole year of 1887, which amounted to three hundred and six.

Did not Find Laveran's Corpuscles.—Dr. Bruno, the pathologist of Charity Hospital, New Orleans, has not had Osler's and Councilman's success in finding the hæmatozoön of Laveran in the blood of many cases of malarial fever that he has examined.

The General Practitioner and Learned Leisure.—Dr. Freer, in the course of some remarks on a practice extending over nearly forty years, says: The general practitioner in the small town or country lives all his adult professional life too far off a large active centre to participate to any great extent in the advantages to be met with there. Nothing can be more calculated to curb ambition and to dispel the illusions he may have fostered when fresh from the schools. He soon finds that the drudgery inherent to general practice, and which he cannot escape, renders impracticable calm scientific investigation and the patient ticketings necessary to accurate research. The mental stress that comes to him in grave cases from the fact that the patient is not merely a patient, but often one bound to him by the ties of close friendship and of a mutual understanding of each other's virtues, peculiarities, and weaknesses (we must not imagine that the doctor studies the patient, and that the patient does not take stock of the doctor); the trouble he is oft put to, to allay the natural or excessive anxiety of "the sisters and the cousins and the aunts" (often his own friends, too); the numberless details of practice which he has to attend to personally for want of someone in charge who has the least notion of nursing—these all tend to knock the scientific aspirations out of the isolated general practitioner, and mock his sighing after a learned leisure.—*The Birmingham Medical Review*, August, 1890.

Precautions against Consumption.—In a circular on Precautions against Consumption, published by the State Board of Health of Pennsylvania, the following advice is given: "The duster, and especially that potent distributor of germs, the feather-duster, should never be used in the room habitually occupied by a consumptive. The floor, woodwork, and furniture should be wiped with a damp cloth. The patient's clothing should be kept by itself, and thoroughly boiled when washed. It need hardly be said that the room should be ventilated as thoroughly as is consistent with the maintenance of a proper temperature."

Neurasthenia and Nasal Disease.—We commend the following, which are the concluding words of an editorial article in the *Journal of Laryngology and Rhinology*, to the prayerful consideration of the entire medical profession. "The causes of neurasthenia, obscure as they are, are not to be sought in some slightly abnormal condition of an organ such as the nose; and to imagine that local treatment of this, or indeed of any individual organ, is going to reward us with successful therapeutic results, is to subject ourselves to such failures as Dr. More Madden very honestly has recorded. Many women live only for the gynecologist, and though we would not for a moment impute such conduct to members of a noble profession, there is no doubt that gynecology, in some unscrupulous hands, has not been free from chicanery in a class of patients in whom the loss of nervous control, which is the essence of neurasthenia, has rendered them ready agents to such practices. It would be a thousand pities were rhinology to incur the same reproach. To remove a vital cause of irritation is right and proper, but to assert that the slight pathological abnormalities met with in many nasal organs, even when they are accompanied with nasal catarrhs, is in real proportion of neurasthenic individuals a potent cause of their troubles, is, we think, to take up an untenable position. Those who, in such cases, look only to intra-nasal surgical treatment, and fail to appreciate the necessity of getting behind these apparent symptoms, and treating the general nervous system as of primary importance, will be doomed in their specialistic narrowness to failure. To say that such treatment, even if it does no good, will do no harm, is not correct. Very great aggravation of the patient's sufferings may follow injudicious and meddlesome interference. It is in neurasthenic patients, of all others, that we should exercise the very greatest discrimination in recommending or carrying out surgical treatment."

A New Method of Producing Local Anæsthesia.—According to the *Moniteur Thérapeutique*, local anæsthesia can be readily induced by simply discharging the contents of two or three syphons of aërated water upon the part. The anæsthesia thus induced is said to last about five minutes.

The Peter-Paul Hospital, of St. Petersburg, has been given 50,000 rubles to erect barracks for the treatment of acute diseases.

The Riberi Prize.—The Turin Academy of Medicine, has proposed the following theme for the Riberi Prize of about $3,750: "Researches on the Nature and the Prophylaxis of One of Several Diseases of Man." Works may be sent printed or in manuscript; they may be in Italian, French, or Latin; and printed works must have appeared since 1886. The date limit is December 31, 1891.

English Death-rates.—Dr. C. R. Drysdale says that at present the average age at death among the nobility, gentry, and professional classes in England and Wales is fifty years; but among the artisan classes of Lambeth it only amounts to twenty-nine; and while the infantile death-rate among well-to-do classes is such that only eight children died in the first year of life out of one hundred born, as many as thirty per cent. succumbed at that age among the children of the poor in some districts of our large cities. The only cause of this enormous difference in the position of the rich and poor with respect to their chances of existence, lies in the fact that at the bottom of society wages are so low that food and other requisites of health are obtained with too great difficulty.

The French Society of Hygiene will award in 1891 a gold medal of 200 francs, also a silver medal, and two bronze medals, to the authors of the best essays on the following subject: "What is to be done, before the arrival of the doctor, in case of a street accident, or accident in a factory." Further information, 30 Rue du Dragon, Paris.

The Consumption of Salt.—According to some statistics recently published in France, the annual consumption of salt per head in England exceeds that of any other country in Europe. For while in France the amount is estimated at about 30 pounds, Italy 20, Russia 18, Austria 16, Prussia 14, Spain 12, Switzerland 8, the Englishman requires no less than 40 pounds. The *Hospital Gazette* thinks that perhaps this is the secret of British thirst. If so, it offers an easy solution to the drink question, which the temperance party should not be slow in adopting.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Fifty-eighth Annual Meeting, held at Birmingham, England, July 29, 30, 31, and August 1, 1890.

(From our Special Correspondent.)

THE Fifty-eighth Annual Meeting of the Association was held at Birmingham, commencing July 29th.

At the morning session on Tuesday, July 29th, the chair was first taken by the retiring President, MR. C. G. WHEELHOUSE, of Leeds, only, however, for the purpose of vacating it in favor of the new President, DR. W. F. WADE, of Birmingham.

After the usual vote of thanks to the retiring President had been carried, the adoption of the Annual Report of the Council was moved by the President of the Council, DR. BRIDGWATER, and that of the Balance-Sheet by the retiring Treasurer, DR. HOLMAN.

The Association Prospering.—The Report referred to the satisfactory progress which had been made during the year. There were now more than thirteen thousand members of the Association. The finances were in a sound condition. The revenue amounted to thirty thousand pounds, being nearly four thousand pounds (twenty thousand dollars) in excess of the expenditure. The assets were in excess of the liabilities by a sum equal to one hundred and ninety-four thousand dollars. After some criticisms from Mr. Brown, which were replied to by Mr. Ernest Hart (the editor of the *British Medical Journal*), the Report and Balance-Sheet were adopted. Mr. H. T. Butlin was then elected as Treasurer for the ensuing three years in succession to Dr. Holman. The meeting then proceeded to the consideration of the reports of the various committees.

On the Adoption of the Report of the Parliamentary Bills Committee being moved by the chairman of the committee, MR. ERNEST HART, and seconded by SIR WALTER FOSTER, M.P., a somewhat acrimonious discussion took place, though happily it was not prolonged.

DR. RENTOUL proposed an amendment to the effect that as the Midwives Regulation Bill had not been adequately discussed by the profession, legislation on the subject should be delayed. He pointed out some of the objectionable features of the present bill.

MR. ERNEST HART, in opposing the motion, said Dr. Rentoul represented no one but himself, though he was fond of misrepresenting himself as having a mandate.

The chairman of the meeting ruled the amendment to be out of order, but suggested that it might follow as a substantive resolution. The Report of the Parliamentary Bills Committee was then adopted. Dr. Rentoul's motion was then carried, in spite of renewed opposition from Mr. Hart, who said Dr. Rentoul had no right to spring such a "rigmarole" resolution on the meeting. Several members referred with disapproval to Mr. Hart's tone.

The Honor of the Physician.—In the afternoon a sermon was preached to the members of the Association in St. Martin's Church by the ARCHBISHOP OF CANTERBURY, who took for his subject "The Honor of the Physician." The three great professions, he said, occupied the three chief fields of practical thought. They were: The self-revelation of God to man—religion; the equitable relations of man to man—jurisprudence; and the mystery of the life of man itself—medicine. Those fields were worked ever more exactly as critical philosophy, social science, and physiology reaped their several harvests of truth, and gave to age after age of man a slowly-advancing insight into the material laws, the spiritual laws, and the character of Him whom no man hath seen or can see. Little by little the conviction grew that what we saw without us and felt within us of imperfection, of loss, of decay, was not—could not be—final. We grew more, not less, able to understand that at last "this corruption must put on incorruption, and this mortal must put on immortality." The question, then, "What is the honor of the physician?" was not limited to him as a principal inhabitant of a city, a revered authority in a hospital, the glory of a college, or a man of European fame. It demanded what were his vocation and ministry in the Divine polity of the world? Inadequately the answer must be given, but no author had given us a key which turned so true in the intricate wards with which nature and existence were locked as that eighth chapter of St. Paul's Roman letter. The physician's field was, St. Paul would say, broadly, pain—the banishment of pain in the largest sense, very commonly the removal of pain by pain. There were strange analogies there, as, specially, the development of the causes of pain. St. Paul taught that all pain was fruitful, that in all pain there was a travail pain, that the manifold agony of Nature was the birth-throes of an exisient, imprisoned, struggling, already emergent life, far greater than the life we yet lived. An inkling of what St. Paul's words contained marked the office of a physician in its true relation to the world. Francis Bacon spoke of *Homo, Naturæ minister et interpres;* and part of that interpreter's vast function was performed by the physician. The preacher went on to consider the physician as exemplifying the law of kindness, the law of purity, and the law of reverence. With regard to reverence, he denied that the spirit of research interfered with it; reverence was rather starved without research than expelled by research of the most intimate kind. He quoted from Sir Thomas Browne, who thought our ordinary way of gazing upon some of the beautiful aspects of nature was a rude thing compared with the reverence of a physical scientist before that glory of God which he was slowly revealing.

Medical Education.—In the evening the members reassembled to hear DR. WADE deliver his presidential address. He chose for his subject "Medical Education," but restricted his consideration almost entirely to preliminary and scientific education. Referring to the recent action of the General Medical Council and to the regulations of the Conjoint Examining Board, Dr. Wade said he proposed to consider the subject only as regarded students who intended to take an ordinary diploma—not as it concerned the fortunate few who had leisure to protract their studies. With respect to the time at the disposal of a medical student, Dr. Wade said that he inferred that the General Medical Council did not intend him to pass the preliminary examination before he was seventeen years old, for it had lately been suggested that the professional curriculum should be extended from four to five years, and that, therefore, the earliest age at which a diploma should be granted must be raised from twenty-one to twenty-two. He therefore concluded that the Council proposed to allot seventeen years to preliminary education, one year to general science, three years to special medical science, one year to practical or clinical work. This brought the qualifying age to twenty-two. Suppose, for the sake of argument, we looked at the question from another point of view, and said that twenty-one should still be the age of qualification, and then worked backward, making at the same time a different allotment, viz.: one year practical or clinical work, three years special medical science, two years general science. By this arrangement general education would cease and scientific education would begin at the age of fifteen years. We saw here the germs of three important questions: 1. Should a diploma be obtainable at the age of twenty-one? 2. Should two years be compulsory in the study of general science? 3. Should compulsory general education be terminable at the age of fifteen? These three questions had, by implication, though not all categorically stated, been under the consideration of the Council at their last session; and they had all, in effect, been answered in the negative. Dr. Wade said he intended to submit reasons for suspecting that it was not, after all, quite certain that they should not all three be answered

in the affirmative. He then proceeded to discuss the points at issue. He urged that to raise the age at which a qualification was obtainable placed an undue pecuniary strain on poorer students. He maintained that two years was not too long a period to devote to science if scientific education was to be given. At present, early compulsory scientific instruction barely existed; compulsory scientific education did not exist at all. Instruction became education in direct proportion to the time spent in conveying it. The twelvemonth now to be allotted to science might serve to cram in a fair share of instruction in facts and phenomena, but it would be impossible to do more. It would be impossible to really enable one to grasp the great principles underlying these sciences. Even of the knowledge acquired, how much would cling? In two years a good deal might be done to remedy this. It was not too much, but could not be allotted unless compulsory preliminary education ceased earlier. Why should it not cease at fifteen years of age? He had lately obtained some particulars respecting the average acquirements of boys of thirteen at an ordinary Board School and had ascertained that they could pass about half the preliminary examination. Taking then the age of entry into the profession as seventeen, these boys would have about four years in which to acquire the balance of knowledge required. If we allotted two years to this—excluding Latin, which was not taught in Board Schools—we had two years to devote to Latin, and he considered this was sufficient to acquire the amount of Latin required. It was, of course, an obvious comment that these boys were never likely to seek admission into the profession.

From details of education given above, however, Dr. Wade drew the inference that, if Latin were excluded, the preliminary education might be passed at fifteen. What were the uses to which a medical man did actually put his knowledge of Latinity? (1) He wrote in his prescriptions the Latin names of drugs. (2) He wrote in Latin his instructions to the dispenser; (3) He wrote in Latin his instructions to the patient. It must also be allowed that he could, if so disposed, read easy passages from Celsus. The necessity for doing the three former things was of a purely arbitrary and artificial character; it had already crumbled and continued to crumble. As to writing the names of drugs in Latin: The Latin names were given in the Pharmacopœia, but the English ones were given, too. In the Addenda to the Pharmacopœia, only the English names were, he believed, given. In the synopsis of the Conjoint Board all the drugs were called by their English names only. As to writing in Latin our instructions to the dispenser: All directions to the compounder were, in the Pharmacopœia, written in English. As to writing the directions to patients: It was common knowledge that a large and increasing number of practitioners invariably wrote these in English, and it was equally certain that those who did so were as often to be found in the higher grades of the profession as in any other. There remained the question of the educational value of Latin. Was there any other system of which the educational value was equal, and of which the instructional value was superior? How far was it suitable for the class of minds upon which it was intended to impose it. The first question he had already dealt with. On the second question he preferred to quote the words of one (Mr. Gladstone) whom no one would accuse of indifference to classical acquirements. They were these: "In my opinion, classical education is in itself the very best of all for those who have a certain tendency toward it, and those whose circumstances are such as will enable them not to be content with the merest rudiments, but who will proceed to the point at which they will realize some solid attainments. Terrible errors have undoubtedly been committed in the past—and in the past I include the days of my own experience—in endeavoring to thrust the classics down the throats of everybody of a certain rank, quite irrespective of capacity and circumstance. I always bear this in mind, that the main purpose of education is to make the human mind a supple, effective, strong, available instrument for whatever purposes it may be required to be applied to." On this Dr. Wade said he proposed three questions: Did the Latinity exacted from every medical student answer best to the description of "merest rudiments," or of "solid attainments?" As regarded medical students, were "the terrible errors of the past," errors of the past only? Could the mind of a medical student be made as supple, effective, strong, and available an instrument for his purposes—so far as nature had endowed him with faculties—by no education unless it included Latin? Latin certainly stood in the way. Should it not, then, be placed in the list of optional subjects? He concluded by remarking that the danger now was that instruction might crowd out education; for indeed it was possible—"propter scientiam sciendi perdere causas."

A vote of thanks to the President was proposed by MR. JONATHAN HUTCHINSON, seconded by DR. W. T. GAIRDNER, and carried by acclamation.

Proxy Voting.—The meeting was then made special for the purpose of considering a resolution on the subject of proxy voting which was brought forward by DR. HUGH WOODS. After some discussion the resolution was thrown out by a large majority.

Address on Medicine.—On Wednesday the second general meeting was held, when the "Address on Medicine" was delivered by SIR WALTER FOSTER, M.D., M.P. He commenced his address with the remark that when he first came to Birmingham, some thirty years ago, it was beginning to go hard with the metaphysical battle-cries of the old school of medicine in the struggle then taking place between the old principle of authority and the modern principle of doubt. It was a veritable revolution and with it came a natural reaction against the empiricism of the older time, which resulted in a nineteenth century revival of the Hippocratic school. The study of the natural history of disease was once more exalted to the highest place, and the function of therapeutics lowered to the so-called "expectant method." Fortunately, this modern revival of what had been called of old a mere meditation upon death had in its extreme form but a short success. There was not enough inspiration in a gospel that taught its disciples that a warm bed was the treatment for pneumonia, and blankets and mint-water that for acute rheumatism. The cynical confession by these modern Hippocratists of their impotence to grapple with, and cut short, developed disease roused the impatience with which disciples of the aggressive school had always refused the passive function of mere observation. The external forms of diseases and the laws which regulated their courses were already well, if not perfectly, known, and so students were stirred more and more in the face of teachings of therapeutic powerlessness to search with renewed energy into the causes of disease. The study of medicine became more and more that of experimental pathology—not the morbid anatomy which generated despair by its revelations of the ravages of unchecked disease, but that modern pathology which, armed with instruments of precision and methods of delicacy, sought out the beginnings of disease and discovered new possibilities of final triumph. Thus, side by side with the teachings of Gull and his followers, grew the new school of experimental medicine. The time, too, was propitious. The physical sciences had reached a stage of their growth when medicine could borrow their methods, and—relying no longer solely on observation—could apply experiment and comparison to the solution of her problems.

The great Harveian principle, to search out and study the secrets of nature by way of experiment, was to bear fruit. In 1865, Villemin startled the world by showing the inoculability of tubercle, and Sanderson confirmed his experiments. The work had gone on ever since, till now, thanks to the labors of Koch, we could identify and isolate the bacillus of tubercle. The evidence had become

complete enough to satisfy most of the sceptics that a tubercle was not merely a neoplasm of definite histological structure, but a neoplasm containing within it a specific bacillus. It would be difficult to exaggerate the value of this great conquest of experiment, which was dissipating day by day the mystery that had through the ages surrounded consumption. Long before this we had, in seeking an explanation of many infectious maladies, assumed that some sort of fermentative process went on in the system, and so we called them zymotic diseases. When the labors of Schwann demonstrated that the act of fermentation was intimately connected with the multiplication of living yeast-cells and the result of their life a beginning was made for the germ theory of disease. The next step was the study of putrefactive processes and their intimate association with micro-organisms distributed in air, earth, and water. The doctrine of a living contagium as the cause of each specific disease received fresh support, and the vitalistic theory of fermentation, elaborately supported by Pasteur, led to the greatest of modern surgical triumphs in the treatment of wounds—a triumph which had immortalized the name of Joseph Lister. The fermentative and putrefactive processes were, under the growing sense of their importance, investigated with wonderful patience and remarkable skill alike by those who held the vitalistic theory of their causation and those who defended chemical views. By the experiments of Naegeli the great chemical champion (Liebig) was ultimately dislodged from a series of positions which he had defended with the greatest skill, and it was generally accepted that the presence of micro-organisms was essential to fermentation and putrefaction.

Nearly fifty years before, the writings of Henle had foreshadowed the connection of infective diseases with micro-organisms, and, in 1849, Dr. William Budd, of Bristol, had declared his belief that cholera and typhoid fever depended on living organisms. He, like many an ardent student, longed for and foresaw the day when, in connection with zymotic diseases, the initial phenomenon of the morbid series would be isolated and defined, as had been done in the case of parasitic diseases like tinea or scabies. That day was now at hand. The discovery of the bacillus of anthrax by Pollender, and the subsequent elucidation of its life and history by Davaine, Pasteur, Koch, and others, who proved it to be the actual cause of the malady, opened a new field of study. New methods of investigation—including the cultivation of bacteria in nutrient media, and inoculation experiments on animals—revealed new and startling facts as to the nature and modifications of the virulence of micro-organisms, which led to the discovery of means whereby they could be weakened at will and made productive against more potent forms.

The subjects of the attenuation of virus and the preventive action of inoculations with attenuated virus were then discussed, Pasteur's work being specially referred to. In regard to the present position of bacteriology, Sir Walter Foster said we had arrived at the following position. In some few diseases, such as anthrax and relapsing fever, we knew a specific micro-organism to be the contagium. In a second group, such as tubercle and cholera, the evidence was nearly complete. In a third group the position of the micro-organism as a cause of each malady was still *sub judice*. In scarlatina, for example, the existence of a specific germ had been warmly discussed by Klein and Crookshank. Edington claimed to have found a bacillus; Klein and others described a specific streptococcus. Fränkel and Freudenberg admitted the streptococcus, but said it was not special to scarlatina, but identical with the streptococcus pyogenes, which was common to many septic and purulent conditions. So the matter rested and it might be left with confidence in the hands of such workers, to whom he must add the name of Dr. Crooke, of Birmingham, who had the honor to have been the first to observe and describe a streptococcus in scarlatina. The lesson that these results taught us was that experiment and comparison had vastly changed our notions of disease, by substituting actual demonstrations of morbid processes for vague speculations. With these revelations of the nature of pathological processes, of the causes of disease, and of what we might call the mechanism of disease, was it any wonder that the attitude of the profession to disease was vastly changed? It was now time to ask, how did this changed attitude affect the problem of medicine—that twofold problem, the preservation of health and the cure of disease? On the latter branch his distinguished colleague, Dr. Broadbent, would address them on Friday. Turning to the first division of the subject Sir Walter Foster reviewed at some length the history of sanitary progress, and especially sanitary legislation, during the last half century. The concluding portion of his address was devoted to giving an account of some of the medical charities of Birmingham.

A vote of thanks to Sir Walter Foster for his address was proposed by SIR DYCE DUCKWORTH, seconded by DR. EDDISON, and carried amid applause.

The Middlemore Prize (in recognition of the best work in ophthalmic medicine and surgery) was then presented to Dr. W. A. Brailey, of London, and Mr. Priestley Smith, of Birmingham, between whom it was equally divided.

Army Medical Department.—The closing incident of the second general meeting was the presentation of some plate to Mr. Ernest Hart, in recognition of his services on behalf of the Army Medical Department. The presentation was made by Brigade-Surgeon Hamilton, on behalf of four hundred medical officers serving in India, who had subscribed to procure some valuable specimens of Indian workmanship.

The third general meeting was held on Thursday, when the "Address in Surgery" was delivered by MR. LAWSON TAIT. Mr. Tait's subject was threefold.

Surgical Training, Surgical Practice, Surgical Results.—In dealing with the first division of his subject he pleaded earnestly for professional training to be made more practical. Birmingham, he remarked, was a great home of industry, the very paradise of the handicrafts. Selecting one of the latter as an illustration, button-making, he said one might think that little skill would be required to cut an ivory nut into what they called blanks in a button-factory, but if you took the workman's place at the saw-bench, if you were not preternaturally skilful, it would only be after sacrificing a few of your fingers that you would find yourself behind him in every conceivable way. You would then begin to appreciate the principle of the subdivision of labor. In such an apparently rough, and certainly very humble, employment as that of the cutter of button blanks a few questions would help us to much thought, and the answers might excite in many of us solutions for problems greatly exercising the authorities of our medical corporations. You would find that even the cutter of the ivory nut would prove a more docile apprentice and a more competent workman if he had had a good education before he entered the shop. We further found that he must go through a long apprenticeship to accustom his eye to judge the nut, to avoid its faults, to accustom his fingers to the sense of resistance, and even his ear to the sound of the saw. Mere general education would do nothing of the kind for him, but the general training he had had would open his mind first of all to the sublime advantages of accuracy in all things, and it would make his mind just so much the more receptive for the monotonous details of his work.

Applying these remarks to the training required by the handicraft of surgery, Mr. Tait referred first to the value of a good general education, and said that if the student could spare the time and money to become a graduate in arts so much the better. Our apprentice surgeon had then to enter upon his purely professional training, and to learn the constituent parts of the body and their functions. Here came in our first difficulty. He, for one,

desired to raise his voice in protest against the absurd attention to detail and the enormous waste of time involved in the present biological training of the surgeon student. Let him be grounded in every fact of anatomy which might, under the rarest and most unlikely conditions, aid him to appreciate the results of an injury, or a displacement, or of a new growth; let him be grounded in all such items of information concerning the ultimate structure of organs and their mediate and immediate functions, and the changes to which disease subjected them. Let him be placed so constantly alongside somatic sections that he would not only learn his anatomy, but that he would never forget it. Let him see things and think of them so often that he would, as it were, see through his patient as the button-cutter saw through his nut before he cut it up. But he pleaded most earnestly that the successors of his hearers should be spared that senseless grind at useless details of anatomy with which their own young memories had been burdened—details which he could remember only by a demoralizing system of catch-words, details which he prepared himself to forget the moment the necessity of examinations was over. He remembered that they had to learn that the direction of the anterior cornu of one of the ventricles of the brain ran a course which was backward, outward, downward, forward, and inward, and they were enabled in the most improper way to remember these important facts by the word "bodfi." Had "bodfi" ever served any of his hearers at the bedside? Was there any conceivable condition of human accident or ailment in which "bodfi" could assist them to relieve their patients? The students who continued to learn such matters would find, as he had done, that they would be of no assistance to them to estimate the character of a delirium, and no amount of knowledge of the arrangements of the electrical currents in muscular fibre would help them to determine the proper relations of a splint.

In the old days—days which he could remember—it was charged against the corporations that they turned out a large number of ill-educated practitioners who knew nothing but their patients. The tendency now was to turn out a still larger number of scientific young tyros who knew neither patients nor their diseases till they had gone through a second pupilage, extending for years after they had left their university. This second pupilage lay in the rough school of experience, and in its second training they would be found deliberately and at once to throw overboard at least two thirds of what they had learned in the first. What the boy wanted after his general education had been fully developed, and his fundamental knowledge of useful anatomical facts and physiological principles had been made perfect to the utmost of their extent for usefulness and not one scrap beyond that, was that he should be dealt with as we dealt with the cutter of blanks in the button manufactory. He should be put at once in contact with his material. He therefore voted cordially with those who demanded the restoration of the apprenticeship system in such fashion as modern requirements indicated. It was, of course, to be no longer a seven years' slavery in mixing pills and spreading plasters, for the modern manufacturing chemist did all that for us now, but it should be a period of at least two years spent in learning how to deal with patients, how to divine their peculiarities, and in learning how to avoid making an ass of himself in the sick room, as the modern, newly-fledged, qualified assistant was certain to do for the first few years of his second pupilage, in spite of his biological lore.

He would carry the practice of apprenticeship farther. While the student was attending to this important part of his training he ought at the same time—and now he was speaking for those who had to follow the craft of surgery—to be taught how to use his hands. He would set him so many hours in the week into the shop of the village carpenter, and would have him trained to use a saw, a chisel, a plane, and a skew, so that he should be able to make a long splint, if need be, as well as to put it on. And he should also go into the blacksmith's shop till he knew how to strike properly with a hammer. Some of his hearers might think that to be unnecessary, but if they could look with a workman's eye (as he could do, for he served his time at the lathe, the bench, and the forge) at a Fellow of the College of Surgeons—he would not give his name, but he was to be found in almost every large hospital in the kingdom—who used a saw for the first time in his life in the amputation of a human leg, and saw, as he could see, what a horrible mess he made of his work, they would agree with him that a training in practical mechanics was just as necessary for a man who had to operate upon his fellow human beings as was a training in anatomy. The great difference between the man who started his saw cutting from the point of the saw and the man who started from the hilt was just as great—he thought it must be greater—as the difference between the man who amputated a leg without any knowledge of anatomy and the one who had such knowledge fairly perfect.

During the two years spent in practical training the student would unconsciously imbibe the fundamental principles of the scientific training which he would afterward have to undergo; he would see for himself day by day the characteristics of wounds healing healthily, and how different they were from those of a wound indicating action the result of constitutional poisoning. The meaning of these differences he would afterward learn at his clinical school. At present he could babble about the theoretical causes of the changes, but of the real facts and phases of them he knew nothing. After his apprenticeship, as he heard in the academical rooms the explanation of the process of the healing of a bone, he could recall to his mind illustrations in the practice which he had already gone through, and the combination of the facts as he knew them, with their explanation, would impress the whole thing on his mind in a way to which at present it was a complete blank. In medical education at present the cart was uniformly put before the horse.

Passing on to speak of the practice of surgery, Mr. Tait said that anæsthesia had been to surgery what steam had been for arts, manufactures, and commerce; it had revolutionized everything in connection with our art. The number of cases for operation increased vastly after the introduction of anæsthetics, and with this increase it became perfectly evident that no man could grasp the whole realm of surgical work. The subdivision of the work became inevitable, and the best and first example of this subdivision came in ophthalmic surgery. In abdominal surgery nothing was really done, if we excepted the truly brilliant achievement of Ephraim McDowell, before the days of anæsthetics. The greatest advance of all in the treatment of tumors—the intraperitoneal treatment of the pedicle by means of the cautery in the hands of Baker Brown, giving a mortality of ten per cent.—was the real starting-point of all our progress, and that proceeding would have been an absolute impossibility without the aid of an anæsthetic. Then came Spencer Wells, who established abdominal surgery as a specialty. Mr. Tait pointed out at some length how the arrangements in hospitals for the pursuit of surgery had been altered as the practice of surgery had grown.

Dealing next with the third division of his subject Mr. Tait said there was less clear ground on which to go. Surgical theories, he said, never led to anything. With regard to the antiseptic theory the last phase of the discussion was the antiseptic accoucheur, who pleasingly fancied that both his theory and his practice were new, whereas Semelweiss literally died for them nearly thirty years ago. Semelweiss had no theory, he simply stated the fact that puerperal women in Vienna were poisoned by dirt. "Wash your hands," he cried, "and the women will not die," and his colleagues ruined him for his frankness. But he persuaded the world he was right.

Mr. Tait then spoke of the desirability of publishing

accurate returns of hospital work and said that to Sir Spencer Wells was most undoubtedly due the credit of putting the publication of surgical results on a business-like basis. The extension of this ought to be encouraged in every possible way. Another great advance required was the devising of logical plans in recording and classifying the results and also the adoption of reasonable methods of conducting the investigation.

A vote of thanks to Mr. Lawson Tait for his address was then proposed by MR. TIMOTHY HOLMES, seconded by DR. MCLEAN (Michigan), and agreed to amid applause.

Gold Medal Presentation.—An interesting feature of the meeting was then the presentation of the Gold Medal of the Association to Surgeon Parke, who was received with great enthusiasm. In acknowledging the presentation SURGEON PARKE said it was his greatest gratification to know that his services in connection with the Emin Pasha Relief Expedition had been appreciated by the members of the profession to which he had the privilege to belong, because he knew none more critical and no better judges of the difficulties which had been overcome. For six thousand miles the only means of transport was on the heads of men. He felt no less gratification from the fact that after three years' marching across Africa he had retained the good will of his wonderful chief and his brave companions. One of the brightest features in connection with the expedition was the good feeling which existed among the Europeans and between the Europeans and the blacks. They all entered Africa strangers to each other, and after their three years' wanderings emerged from the Dark Continent fast friends. Among the Europeans the mortality during the expedition was exceedingly small; only two out of fifty died, and of these two one was murdered and the other died about six hundred miles away without any medical attention. Among the black people they only brought back 300 out of 700. During the starvation period—the period of the greatest distress—the white people appeared to get along much better than the black; they had more pluck, more energy, and more love of life than the black people, who had very little resistive power. They found Emin Pasha and brought him back to the coast. Everyone knew what had happened to Emin since then; how he had walked out of a window and severely injured himself. He had not been in a two-story house for years, so there was little wonder that he mistook the window for a door. They all knew what had since happened to Mr. Stanley. In conclusion, Surgeon Parke spoke of the fine country in the centre of Africa; it was a beautifully fertile region, a lovely garden. He did not doubt that in a short time it would be opened up to civilization, for no less than three railways were being constructed to approach it. The native races, too, were not all ugly. The Wahumas were really handsome, and if some of the Wahuma ladies were to be introduced into England he believed there would soon be a great emigration of enterprising colonists to Africa.

The fourth (and concluding) general meeting took place on Friday.

An Address on Therapeutics was read by DR. BROADBENT, of London. After thanking the Council of the Association for the honor conferred on him by assigning to him the lecture on therapeutics, Dr. Broadbent said he could lay claim to only one quality in accepting the honor, and that was that he had an immense interest in the subject as a branch of science, and not only as a professional means of gaining a living. He had a profound conviction that, in the therapeutic art, there must be fixed laws, if only those could be discovered; and that, sooner or later, the art of therapeutics would enter the scientific epoch, and be ranked with arts such as engineering or other arts which applied the exacter sciences to the benefit of mankind. He believed that, just as in engineering, a knowledge of material was essential to the successful constructor, so in therapeutics the common sciences of physics and chemistry would eventually be found capable of explaining the actions of various agents upon the human body.

Therapeutics, of course, must advance by means of experiment and experience, and was less of a deductive art than many others were. Unfortunately, there was but little constancy observed in the effects of remedies; because the effect varied so much according to the constitution of the patient on whom they were tried. Organisms varied enormously. Then, again, a drug would often have quite different effects when put into a full and into a fasting stomach. In the former case the system was occupied with its nutrition, and in the latter the substance would be taken up at once and produce its full effects. And in giving drugs to different animals it must be remembered that as in the case of the carnivora the food was so different from that of the herbivora that substances which would have a powerful effect on one kind of feeders might have none on others. In the liver-cells, for instance, of the herbivora, which had so much more work to do, the effect of any special drug might be expected to be quite different from what it would be in a less busy set of cells in carnivora. Again, the functional endowments of the brain were incomparably greater in some animals than in others, and it was only natural to conclude, *à priori*, what was well known to be the case in fact, that nerve-poisons acted very differently on vertebrate and invertebrate animals, and on some of the former far more than on others. Some of the higher animals had most active brains, and strychnine acted very differently on the brain of such animals, while all of them were similarly affected by that drug as far as the spinal cord was concerned. When the vertebrate animals, however, were excluded it was found that strychnine was no poison to beetles, at least he had been told this by a chemist, who had falled to poison these insects by using strychnine, which was so deadly to mammalia and other vertebrates.

From facts such as these, induction in therapeutics was clearly surrounded by peculiar difficulties. But it must be remembered that the motions of the planets round the sun had remained unaccounted for until the day when the theory of universal gravitation was explained by Newton; and if therapeutics were ever to become scientific we must try to get a definite idea of what it was that we were aiming at. Some persons looked upon the effects of quinine on ague, of mercury on syphilis, etc., as ultimate facts. If this were so there could be no science of therapeutics. By the word therapeutics he included all the agents which attempted to adjust the body to its environment, and he quoted Mr. Herbert Spencer's definition of health as being such an adjustment. A living organism was ever subject to disintegrating processes which it was continually resisting. Health varied in degree. The health of young persons differed from that of old, and the health in cold climates differed from that in warm. So long as the adjustment between the body and its environment continued to be complete health existed, but when it was incomplete disease supervened. The vomiting and purging which took place where indigestible food was ingested were efforts of the system to readjust itself to its environment. A fragile constitution was one which was ill-adjusted to its environment. Such an one would sometimes carry the patient through a long life if there be but little hardship in his lot; but if storms arise, the life was often rapidly sacrificed. There was also continuous adjustment of the various cells in the body to their environment going on in the interior of the body. With such a view as this it was clear that acute disease must be regarded as a process by which the organism was endeavoring to adjust itself to its environment. And thus it might be asked whetheri n fevers the excessive heat might not be one way in which the system tried to protect itself, or to eliminate the poison. The enormous increase in the number of micro-organisms in the blood might account, together with the ptomaïnes engendered by them, for the high temperature. In such fevers our object would evidently be, first of all, directed, if that

were possible, to destroy the microbe; but when that was not feasible it was not advisable always blindly to interfere with the fever, since, if the organs could be protected by the process of fever, health might ere long be restored. In febrile disease, to lower the temperature was not always synonymous with cure of the disease. Thus, although antipyretic treatment and cold were useful in typhoid fever, they were of no service in pneumonia. Drenching with cold water and using cold enemas might prove useful in some fevers, but hurtful in other cases of high temperature. The different drugs which were at present so fashionable for lowering the temperature were often doing much harm as well as good, since the remedy, while it lowered the temperature, might, at the same time, prove very lowering to the strength of the patient. At the outset of pneumonia, however, before the attack fairly set in, antipyretic remedies, in his experience, might occasionally cut short the disease. The evolution of energy in the body went on at the cost of disintegration of the tissues. In warm-blooded animals a certain temperature was necessary, and heat was the great intermediary through which nutrition was turned into energy. Heat was the least specialized of all the forms of energy. In disease the energy which ought to go to the building up of the tissues was given off in the form of heat. On this point he begged to refer to Dr. Harry Campbell's work on the etiology of disease. The limits of our power in therapeutics were these: We could not make the tissues of old people act like those of the young. A single dose of some drug might modify the environment of the tissues, and tend toward recovery from the disease. The hospital patient had many changes of a most useful kind. He was removed from what were frequently most unhygienic surroundings to the airy wards of a hospital, where good food, careful and kind nursing, and other great changes were secured for him.

Again, the over-fed wealthy man had a great change when he was put to bed and compelled to live on slops or low diet. But the real function of the physician lay in the use of drugs, and to depreciate the use of such forms of the therapeutic art was most erroneous. No work was more valuable in this connection than the labors of the experimental physiologist when he studied the action of drugs. Thus, when it became known that digitalis acted on the muscle of the heart a flood of light was thrown upon its utility in diseased states of the organ. It was quite delightful to see with what enthusiasm many inquirers threw themselves into this very fascinating branch of the therapeutic art. In this experimentation the method of differences, the true way of discovering causation, could be made use of. The results that this method promised were most hopeful. With regard to the use of chloral and opium as yet our knowledge was merely mediate; but the explanation of the action of these drugs would eventually be afforded by the deductive method. All physiological action of drugs depended on chemical laws. The effect of small and large doses was different, and this might be compared to the action of strong sulphuric acid on starch, which it charred and destroyed. There must also be a quantitative relation between a drug and its effects. Just as when alcohols are more or less fluid or solid the effect on the system was increased or decreased. Dr. Broadbent then adverted to Dr. Williams' experiments on zanthine, caffeine, and theobromine. Zanthine, that observer found, paralyzed the spinal cord. Theobromine had a similar effect, and a tetanizing action on the muscles. The tetanizing effect was due to its molecule being heavier by the substitution of methyl in place of hydrogen. Drs. Crum Brown and Fraser's experiments upon the chemistry of morphine were next alluded to. The chemical constitution of this substance had not yet been made out very perfectly. When chloride of methyl was added the effect of the drug was altered. The most remarkable inorganic group of remedies was that of arsenic, phosphorus, and antimony. In anæmia, arsenic and phosphorus were both of service. In skin disease, also, both of these drugs might be useful. Bismuth was inert, because insoluble, and the emesis caused by antimony marked its effects on the skin. A preposterous prejudice existed against the use of phosphorus. The dynamic action of this drug was produced by the passage of phosphorus into its oxides. In its allotropic form the drug was inert, and an ounce of phosphate of soda was of no effect on the system. The hypophosphites were of more use, because oxidizable. The arseniates were powerful because of their great affinity for hydrogen. Mercury was useful in therapeutics because it was a deadly poison to so many micro-organisms. Tartaric acid, on the other hand, was not a foe to lowly organisms, and therefore no antiseptic. Chemical groups might probably have corresponding therapeutical groups in some cases. But no set of chemical bodies could be more alike than chlorine, bromine, and iodine, and yet iodide of potassium was of far greater utility than chloride of potassium. The reason of this was that the iodide was insoluble and could easily be made to yield up its iodine in the blood and then became oxidized in the system. Bromides in epilepsy had probably nothing special in their action, but merely acted by their chemical effect on the oxygen or hydrogen of the tissues. With regard to the alkalies, soda was found in the serum and potash in the corpuscles of the blood. Other elements might be found to have similar therapeutical characters. Thus lead and soda had probably some similar action. Imagination was useful to direct the way in which investigations might be made. With regard to the quantitative relation of effect between a substance used and its effects, there was some difficult problems remaining to be solved. Thus it was certainly mysterious that one grain of hydrocyanic acid should be so destructive to life. The quantitative value of nerve force, however, was very low, and it was characterized by intensity rather than by strength.

Carbonic oxide resembled grit in the wheels of an engine, and the action of prussic acid was like that of an explosive. One remark was to be made, and that was that the great poisons were all of the nitrite type, and considerable chemical tension existed in that group of chemical substances. In conclusion he would remark that therapeutics were most safely applied by those who possessed profound physiological knowledge. It was bad practice to be continually using purgatives, stimulants, or narcotics. When the urine was turbid, it was not sufficient at once to prescribe an alkali; and it was short-sighted policy to continue giving bromides indefinitely in epilepsy. If this was done, the health of the patient might be deteriorated with no benefit to the fits. As much as possible, the practitioners must resist the desire for palliatives. He protested against the insensate rage for new drugs. This rage was absolutely fatal to rational advance in therapeutics. Fraser's strophanthus was an advance; but the host of remedies sent out by advertising chemists were most dangerous. Podophyllin and mercury were both said to act on the liver; but they did so very differently, and it required a most discriminating practitioner to know when to use either. Finally he would lay down as a test for a weak therapeutist—a constant running to drugs and a fondness for the most novel drugs to be obtained in the apothecary's shop.

A vote of thanks to Dr. Broadbent for his address was unanimously awarded, and the usual votes of thanks were then passed to the various officials, after which the proceedings terminated.

Much Dissatisfaction at Arrangements.—I regret to chronicle that much dissatisfaction has been expressed at some of the arrangements made. It seems that some delegates have been treated with discourtesy on presenting their credentials. The president and reception committee should have prevented this. When a medical man comes from a college or a university at a distance officially delegated in response to an invitation it is inexcusable to leave him to a paid official of defective

manners. The same delegates will go to Berlin, and we may look for some rather unpleasant comparisons to be made between English and German courtesy. I hear also that no little dissatisfaction is felt at garden parties being given, and announced in the official programmes, but invitations to them issued privately. I have heard it remarked very pointedly that entertainments which are officially announced should be open to all members. Let us hope for better arrangements next year.

SECTION OF MEDICINE AND THERAPEUTICS.

WEDNESDAY, JULY 30TH.

DR. DRUMMOND, of Newcastle, occupied the chair. Sir Dyce Duckworth had been summoned to London, and could not act as president.

Varieties of Cirrhosis of the Liver.—DR. SAUNDBY, of Birmingham, opened the discussion upon the varieties of cirrhosis of the liver. The author said he presumed he had been asked to open this discussion partly because he had written a book on the subject. He then sent round the following table as a short synopsis of his views as to the varieties of hepatic cirrhosis.

Clinical interest centres in the alcoholic form with its usually well-marked symptoms. But it is important to note that this, too, may exist without causing such derangement of health as to call for medical assistance. In these cases there is no ascites, but there is a great liability to death from hæmatemesis, due to the rupture of the dilated gastric or œsophageal veins by which the blood from the portal system reaches the superior vena cava. Yet the condition of these patients is greatly to be preferred to that of those who, swollen with ascites, are wholly invalided. It is therefore desirable to attempt to reduce the latter to the former condition. This may be done by early and repeated tapping, and a case of six years' standing is shown to illustrate it. Pathological specimens of the varicose, gastric, and œsophageal veins are also exhibited.

The not uncommon termination of alcoholic cirrhosis with symptoms of malignant jaundice is emphasized. The symptoms, where any occur, and pathological characters of the other forms are briefly sketched.

Special attention is directed to rachitic cirrhosis, which is frequently supposed to be syphilitic—a view that receives some support from the benefit derived from the use of mercury (calomel or gray powder) in small doses.

TABLE I.—*Anatomical Changes in the Varieties of Hepatic Cirrhosis.*

Varieties.	Size.	Color.	Surface.	Capsule.	Consistence.	Bile Passages.	Position of New Growth.	Newly-formed Biliary Canaliculi.
Alcoholic	Usually small.	Pale olive.	Granular.	Thick.	Tough.	Nearly empty.	Round groups of acini.	Present.
Cardiac or cyanotic	Usually large.	Dark.	Smooth.	"	"	" "	In centres of acini.	Absent.
Biliary	" "	Olive or pale.	"	Slightly thick.	"	Dilated and full of bile.	Around single acini.	Abundant.
Diffuse syphilitic	Large.	Brown.	"	Opaque.	"	Normal or empty.	Diffused.	A few only.
Gummatous	Irregular.	Pale.	Irregular.	Thick and opaque in places.	Cartilaginous in places.	Normal.	Irregular.	Absent.
Tubercular	Large.	Pale or normal.	Smooth.	Normal.	Normal.	"	Around single acini.	Very abundant.
Malarial	"	Dark pigmented.	"	"	Tough.	"	Around single acini.	Absent.
Scarlatinal	Normal.	Normal.	"	"	Normal.	"	Around single acini.	"
Rachitic	Large.	Pale.	"	"	Tough.	"	Around single acini.	Present.
Diabetic	"	Dark and pigmented or pale.	Granular or smooth.	Thick.	"	"	Generally in centres of acini.	Absent.

TABLE II.—*Clinical Features of the Varieties of Hepatic Cirrhosis.*

Varieties.	Age.	Sex.	History.	Ascites.	Jaundice.	Hæmatemesis.	Size of Liver.
Alcoholic	Adult.	Usually male.	Abuse of alcohol.	Present in two-thirds.	Absent until later stages. A subicteric tinge then only.	May occur.	Usually small.
Cardiac or cyanotic	Any age.	Either.	Chronic heart disease.	Not uncommon.	Occasional late.	Absent.	Enlarged.
Biliary	" "	"	Early jaundice.	Absent.	Present and persistent.	"	"
Diffuse syphilitic	Childhood.	"	Hereditary syphilis.	"	Absent.	"	"
Gummatous	Adult.	"	Acquired syphilis.	May occur.	Occasional.	"	Irregular.
Tubercular	Any age.	"	Tubercular disease elsewhere.	Absent.	Absent.	"	Enlarged.
Malarial	" "	"	Prolonged malarial infection.	"	Frequently present.	"	"
Scarlatinal	Usually in childhood.	"	Scarlatina.	"	Absent.	"	Normal.
Rachitic	Childhood.	"	Rickets and chronic gastro-intestinal catarrh.	"	"	"	Enlarged.
Diabetic	Adult.	Usually male.	Diabetes.	"	Absent, but skin may be bronzed.	"	Generally enlarged.

Under the microscope were placed slides illustrating the varieties of cirrhosis mentioned in the paper.

Modern pathological investigation has distinguished ten varieties of cirrhosis of the liver, viz.: 1, Alcoholic; 2, cardiac; 3, biliary; 4, diffuse syphilitic; 5, gummatous; 6, tubercular; 7, malarial; 8, scarlatinal; 9, rachitic; 10, diabetic. Some of these forms, notably the tubercular, the scarlatinal, and the diabetic, have no clinical history whatever, and this also to a considerable extent is true of the cardiac and gummatous varieties. In all of these the lesion may be so slight as to give rise to no signs during life except some enlargement of the liver. On the other hand, their naked-eye and microscopic appearances are usually characteristic and readily recognized post mortem. These are illustrated by specimens of livers and microscopical sections.

Alcoholic Cirrhosis.—The first variety, or alcoholic cirrhosis, was the most commonly met with, and had been first described by Laennec. This form of cirrhosis was usually met with in adult males and was distinctly due to the use of alcohol. In this form of cirrhosis it was noticeable that those patients who had hæmatemesis escaped ascites, and, on the other hand, those who had ascites usually escaped hæmatemesis. As symptoms of alcoholic cirrhosis there were to be mentioned various forms of dyspeptic symptoms, subicteric discoloration of the skin, sometimes going as far as jaundice. The presence of urobiline in the urine was a notable feature. There was nothing in the condition of the spleen pathognomonic of the disease. That organ was usually enlarged in alcoholic cirrhosis. Ascites was present in a large percentage of all cases of alcoholic cirrhosis. But this was by no

means always the case. Dr. Saundby mentioned the case of a man with hæmatemesis who, when examined post mortem, had had typical hobnailed liver, although he had never exhibited any ascitic symptoms. In that case there had been great dilatation of the collateral veins. As a rule, then, the opening out of the collateral circulation, which gave rise to hæmatemesis, was likely to free the patient from ascites. As to the pathology of this form of cirrhosis, the new formation spread through the canals and probably sometimes affected the acini. Dr. Saundby then explained that, by means of frequent tapping, many such cases of ascites might be cured for a shorter or longer period. He introduced a patient who had six years ago had ascites and had been frequently tapped for it. This man was now in fairly good health, and went to his work regularly. He, however, continued to drink about three pints of beer daily, but no gin or other spirit. The man looked sickly, but was in a condition which, if he had been rich, would have been considered quite satisfactory. Many of the patients were hopeless drunkards; but even in these a year or two of comparatively good life might be hoped for by tapping. Dr. C. Murchison was the first to recommend repeated tapping as a treatment in alcoholic cirrhosis. In these cases tapping should be repeated time after time. This was a great novelty in modern times, for when he was a student it was the custom to give a diuretic or purgative in cases of alcoholic cirrhosis, and then, if these did not succeed in removing the fluid, the case was considered hopeless and left to die. There were, he knew, many who made use of the practice of repeated tapping; but even yet there were very many who did not avail themselves as much as they might with advantage do of this slight operation.

Cardiac Cirrhosis.—With regard to cardiac cirrhosis, that was clinically of but slight importance, as it led to no symptoms and was merely caused by the congestion of the liver accompanying chronic bronchitis or other affection of the lungs and heart. The liver in such cases was enlarged and tender. There was frequently slight jaundice. The new growth spread from the radicles of the hepatic vein.

Biliary Cirrhosis was an interesting form of the disease and not so well-known as alcoholic cirrhosis. It was of the hypertrophic variety. Charcot said that such hypertrophied livers might subsequently become contracted. There was in this case proliferation of the bile-ducts. The prognosis was very unfavorable and terminated in death. Ascites was for the most part absent as a symptom of this form of cirrhosis.

Syphilitic Cirrhosis was most met with in children with inherited syphilis. The liver in such cases was smooth and tough on section. This was a diffused lesion, attacking the liver-cells by cell-growth. Its treatment was antisyphilitic in character.

Gummy Cirrhosis hardly deserved the appellation of cirrhosis, and the prognosis was unfavorable only in severe cases. Under the microscope the fibrous tissue was seen around the cells.

Tubercular Cirrhosis was so little recognized that he almost expected that its existence would be denied. However, it certainly occurred, and he had met with two cases of it. The liver was large and smooth in such cases, and there was trabecular network around the lobules. There was enormous development of the biliary radicles in one case.

Malarial Cirrhosis.—In such cases the liver was often enlarged and pigmented. This complaint no doubt arose from frequent malarial attacks. The lobules were invaded, as well as surrounded, by the new growth in this affection.

Scarlatinal Cirrhosis was only known to pathologists.

Rachitic Cirrhosis was sometimes noticed in rickety children. Gastro-intestinal catarrh was a symptom of this form of the disease, and it resembled in some respects hereditary syphilis of the liver. The spleen was enlarged in these cases.

Diabetic Cirrhosis.—The description of diabetic cirrhosis was due to French pathologists. It was certainly a rare affection. It was not very rare to see some amount of cirrhosis in the livers of patients dying of diabetes. Hanot mentioned that this form of cirrhosis commenced in the hepatic radicles. The condition was often associated with bronzing of the skin. The most common form of alcoholic cirrhosis was often hypertrophic at first. Dr. Saundby concluded his paper by explaining that he had taken the method of classification by causation as the most useful.

Dr. Stacey Wilson said that it seemed useful to call attention to the condition of dilatation of the veins at the root of the œsophagus in cirrhosis, by which the collateral circulation was often carried on. In such cases there was a plexus of veins around the œsophagus at its entrance into the stomach. The capillary veins might be seen passing up the cardiac sphincter. The sphincter of the œsophagus was of great importance when the portal vessels were obstructed. As soon as large varicose veins in the œsophagus ruptured, hæmatemesis occurred. Such cases were rarely mentioned in text-books. Probably in the future this would be found to explain hæmatemesis. Lauvel, in 1840, was the first to point to this class of cases; but he thought that Bristowe was the first English physician to give cases of it. During the last ten years twenty cases of this dilatation of the œsophageal veins had been published, but ten of them had been due to two observers. He himself had seen five cases. Why had this lesion been so overlooked? The reason was that the œsophagus was rarely examined in the post-mortem room. When the veins were collapsed, too, there was very little evidence of their existence. To look for them satisfactorily it was necessary to inflate the veins by means of the blow-pipe. A man might go on well for years, and suddenly have hæmatemesis, and this might cease and the patient might go on with his work as usual. As to treatment, when a vein was ruptured in such a case, it was well to prevent the patient from performing the act of deglutition. Perhaps the use of nitrite of amyl might be of service in these cases.

Dr. Radcliffe had had three cases of alcoholic cirrhosis in which he had been able to recognize the existence of varices in the œsophagus. The first of these cases had been under the care of Dr. Saundby. One patient had hæmatemesis, and died a few days afterward, when his liver was found to be waxy, syphilitic, and cirrhotic. The œsophagus was removed, and its veins were found to be dilated and varicose. In another case under the care of Dr. Saundby the man was in hospital a fortnight and had had marked melæna. On making a post-mortem examination in this case it was found that the posterior wall of the stomach near the cardiac orifice was covered with varicose veins, and these extended into the œsophagus. At the post-mortem examination no great varicosity was seen until the veins were blown up. In another case there had been no hæmatemesis, but the motions had been mixed with blood. In none of these cases was there any capillary oozing from the walls of the stomach.

Dr. Thomas, of Bournemouth, had listened to the paper and to the other two descriptions of œsophageal dilatation of the veins. He thought all of these papers would be likely to produce an influence upon treatment in the future. It would be of great importance if it were possible to diagnose the existence of cirrhosis in its early stage. When he was hospital interne he used to notice that many of his patients suffered from hæmorrhoids, diarrhœa, and sickness in the morning, with constant spitting and hawking. They were apt to suffer from pneumonia or bronchitis and when death took place the liver was found to be cirrhotic. Other similar patients would get thin, and then exhibit ascites. The question was whether the latter class of cases was the same as the former or not. At first in these cases the liver was hy-

pertrophic and afterward atrophic. Patients in private practice had hypertrophic livers, which ended in cirrhosis with dropsy. These patients drank beer to a great extent. To decide this question would be a great boon to the public.

DR. DRYSDALE had been greatly instructed by the paper read by Dr. Saundby, and by the classification he had made according to causes. That kind of classification was certainly the most practical, and, of course, in the medical section the great question was how to cure patients. In the other sections questions of pathology were more in place. The most important causes of cirrhosis met with in ordinary practice were, firstly, and far above all other causes, alcohol; then came syphilis, heart disease, and malaria. But, naturally, the discussion had been entirely confined to the question of alcoholic cirrhosis. This was fortunate, as it was both the most curable and the variety which was constantly coming before them. His impression was that it was sometimes possible to surmise the existence of cirrhosis of this description when the patient had been a drunkard and had enlargement of the liver, vomiting, and other symptoms of alcoholic poisoning. With regard to the prognosis of ascites of alcoholic origin, that had of late years been better than it used to be, the practice of repeated tapping and the relief obtained in this way had been a very great advance in therapeutics. It was his experience that in the hypertrophic variety of cirrhosis there was a better chance of ultimate recovery than when the atrophic form existed. Probably in the former case a larger number of liver-cells were healthy and capable of carrying on the functions of the organ. With regard to the variety of cirrhosis called bilious, that, in his experience, was uniformly fatal in its prognosis. In ascites the patient should be made to refrain entirely from alcohol, and should have the fluid drawn off as often as was needed for his comfort. It was well to give a whiff of chloroform when the puncture was made, since patients shirked the pain of the cut, and often refused the operation too long.

DR. BROADBENT, of London, said he had been greatly instructed by the specimens of venous affections of the œsophagus shown by Drs. Radcliffe and Wilson. He had no idea that these affections played such an important part in the causation of hæmatemesis. It had never been his practice to stop hæmatemesis by styptics.

DR. HANFORD, of Nottingham, thought that another variety of cirrhosis might be added, and that it might be styled interstitial hepatitis. He also thought that there was a febrile variety, and enteric fever might be followed by cirrhosis. There were now quite a list of histories of cirrhosis among children. Diabetic cirrhosis was a real entity and capillary dilatation was the essence of this variety. The liver-cells were much atrophied in such cases. Diet was of great importance in the treatment of cirrhosis and should be vegetable in character. Some of the cases cured by repeated tappings were connected rather with peritonitis than with cirrhosis.

SIR WILLIAM MOORE was not certain that such a condition as that of malaria existed. When the liver was congested in the tropics, it was enlarged. He doubted the existence of malarial cirrhosis.

DR. GRIFFITHS spoke of large veins passing from the portal vein to the umbilicus. The question of the collateral circulation was of prime importance. The publican usually died of large liver. The test for the size of the liver by percussion was a very bad one. Ascites was not always due to cirrhosis of the liver, and possibly, in the case exhibited by Dr. Saundby, some other affection had existed. Dr. Russell said the typhoid form of cirrhosis was common. As to repeated tapping, he remembered a case where tapping was repeated so often that there was no more room for the fluid to accumulate in.

DR. HUTCHINSON, of Scarborough, said the long array of causes presented by Dr. Saundby was really terrifying. His only consolation was that none of them except alcoholic fluids seemed to have any symptoms. Alcohol was indeed at the bottom of all the clinical cases of cirrhosis. He wished to protest against the way in which patients were sent off to foreign countries with cirrhosis of the liver. In the case of a gentleman thus expatriated he suffered terribly from sea-sickness and died on arriving at Algiers.

DR. DRUMMOND mentioned the case of a patient in whom cirrhosis of the liver seemed to have followed after swallowing much tobacco-juice. He also mentioned a case of acute alcoholic biliary cirrhosis in a man aged thirty-four, who caught cold and died in a few days. The liver weighed six and one-half pounds, and profound biliary cirrhosis was found on post mortem examination.

DR. SAUNDBY said that Dr. Thomas had suggested that cirrhosis of the liver might be diagnosed during life by means of the sickness and other symptoms of gastro-intestinal catarrh, and that hypertrophic cirrhosis might be caused by beer-drinking. But spirit-drinking also might cause this. As to tapping, the whole of the fluid might always be slowly withdrawn.

The Section then adjourned till next year.

SECTION IN SURGERY.

WEDNESDAY, JULY 30TH.

Chairman's Address.—MR. T. H. BARTLEET, of Birmingham, in opening the business of the Section, remarked that the town in which they met was a well-equipped surgical centre. There was plentiful accommodation in the hospitals, both general and special. In a sketch of the medical charities he mentioned the fact that the road to the General Hospital, although now in the midst of a densely populated district, was formerly marked by sign-posts, to guide the sick poor to its gates. Among past distinguished Birmingham men he mentioned Freer, who was the first to tie the external iliac artery, and James Hodgson, who wrote a classical work on arteries, and who subsequently became President of the College of Surgeons. At the present time Queen's College anatomical museum was a monument to the skill of Professor Windle. The speaker insisted on the importance of teaching operative surgery, a plea which would be at once accepted by experts. It was a common experience for surgeons to spend years after starting in acquiring the art of surgery. Twenty or thirty years ago surgery lay in the hands of the few. Operation was rarely attempted by the general practitioner, and cases drifted into the hospitals of the large towns. Now that was all different. Surgery was no longer the fetish it used to be. England was behind most continental countries in the average requirements of operative surgery, both in education and in examination. She was behind America and Ireland in this respect, and even in the fellowship examination of the College of Surgeons it was of minor importance. The cost of such training was heavy, not only in money, but in time and labor. The cost of subjects also made examination a costly matter. There could be no doubt, however, that the extended teaching of operative surgery would prove a benefit to our students, to our schools, and to suffering humanity.

Surgery of the Larger Arteries.—MR. TIMOTHY HOLMES read a paper on the "Surgery of the Larger Arteries." He said that ancient proposals, discredited half a century ago, were again revived. We were now asked to return to the soft, broad ligature of olden times in the shape of kangaroo tendon or ox aorta. Then the old surgeons approximated and did not cut the walls of the vessel. There was the old practice of Abernethy and his colleagues, who divided the vessel between two ligatures, now revived, chiefly at St. Bartholomew's hospital. Lastly, there was the revival of Auel's operation of tying close to the sac in popliteal aneurism.

Materials for Ligatures.—As to the materials for ligatures, it was useless to recount the old experiments of Cooper and others. Then suppuration was the rule and the ligatures came away by ulceration. Now a ligature was not exposed to those conditions. A ligature should

be firm and unirritating, soft enough to be easily tied, and able to retain the knot after cutting off short. It should also be broad enough to close the artery without injury to inner coats. Silk appeared to fulfil all these conditions. It was unirritating and absorbable without suppuration. Catgut was handy but not trustworthy. Ox aorta was used in 1879 with admirable ease and success in tying the external iliac artery. Ligatures of the last mentioned and of kangaroo tendon were less easy to tie than silk, a fact which explained its looseness in certain cases. It was also difficult to make sure of apposing the coats of the vessels. In the first case tied with ox aorta the artery became pervious. Catgut was better for the cut ends of vessels, because there was no liability to slip. The animal substance was prepared by nature instead of being left to the uncertain process of the instrument-maker. In one case where catgut and ox aorta were used on the same patient the tendon was found post mortem to be embedded and infiltrated with cells, though still maintaining its grasp, while the gut had disappeared. In another patient who died of secondary hemorrhage from the distal end of the carotid, the tied portion of the vessel was entirely obliterated, and the ligature gone. The ulceration that had taken place was due to other causes. Ballance and Edwards did not regard silk as perfect for aseptic ligatures. In silk the structure was continuous throughout; it did not split; and absorption took place from outside. While they were prepossessed in favor of animal substances, Savory upheld silk ligatures. Silk, however, was unreliable if the artery was to be tied and the ligature buried. He agreed with Bennett May that silk at best could not be relied upon. Kangaroo tendon was trustworthy for two months, well prepared chronic catgut for one month. Of all materials in use, he personally preferred ox aorta.

Amount of Force to be Applied.—There was then the question as to the amount of force to be applied, whether it should be the aim of the operator, with Hunter, to stop the circulation, or, as Jones proposed, to divide the inner coats. For a long time Jones attempted to obliterate the artery by a process equivalent to union by first intention. Comparing the behavior of buried ligatures with long ends brought out of the wound, the latter were bound to ulcerate their way out. He intended to avoid the subject of secondary hemorrhage, as he knew no instance where it had occurred when all parts healed quickly. To avoid all disturbance around the ligature was, in his opinion, most important toward securing rapid union. Ballance and Edwards proved that it was not necessary to success in lower animals to cut the inner coats. Hunter's experiments were fairly successful, astonishingly so when we remembered that he tied the vein as well as the artery. Barwell tied successfully the subclavian and the carotid, dividing the inner coats. Many surgeons admitted the possibility of successful ligature without formation of internal clot. Pick said it was not absolutely necessary, but still desirable. Closure was effected by a membrane; there was effusion and proliferation round the cut ends, aided or not by division of the inner coats. Whether such division made the cicatrix that closed the artery firmer or not was still undecided.

It was more difficult to tie animal ligatures than silk. The method introduced by Abernethy of tying the artery in two places and dividing between them, lately revived at St. Bartholomew's, had existed from the earliest times, chiefly in wounds of vessels. The chief reason advanced was the assumption that large arteries did not ulcerate. The plan prevailed for twenty years or more, and was replaced by the simple ligature, which, when used without disturbance of vessels, was satisfactory. Cooper applied only force enough to cut coats. Lately a patient died at St. Bartholomew's from the slipping of the upper ligature. That possibility constituted an additional danger. At the present day stumps heal rapidly and arteries do not ulcerate. In earlier days prolonged suppuration and ulceration were the rule. Secondary hemorrhage was now very rare. Out of 23 ligatures of large arteries at St. George's there was only one case of secondary hemorrhage, but of 11 such cases Abernethy had one of hemorrhage in a suppurating wound after twenty-one days. It was difficult to see why two ligatures should produce less irritation than one. Savory found that the whole length of the artery was not rendered impervious by ligature in Hunter's canal. Hulke avowed that the artery was occluded down to the aneurism. Most modern text-books adopted the view that it was impervious for three or four finger-breadths below the ligature, there was then a free space and it was again obliterated. Hodgson found no case except Cooper's of entire obliteration. In Hunter's original case the artery was open between the point tied and the aneurism. Savory had settled that obliteration was needed only at the point tied. Ligature of the trunk left almost necessarily a portion unobliterated. In the alternative of tying near the aneurism the risk of diseased vessels was exaggerated. In subclavian and axillary arteries the ligature must be near the aneurism where the probability of atheroma was far greater. Surgical aneurisms were rare and could be treated successfully by Hunter's and other methods. Simple aneurisms were always curable by simple means. In very large and rapidly growing aneurisms Auel's method was more dangerous. Tying the popliteal, however, was not so formidable in these days of buried ligatures and aseptic surgery. Annandale recommended ligature of the superficial femoral in all such cases as rapidly growing or inflamed aneurisms, or those attended with joint or other complications. He said that he had never known a case of secondary hemorrhage where the old operation had been carefully done antiseptically. Auel's operation, then, he regarded as unnecessary in most cases.

As to Secondary Hemorrhage, Harrison Cripps' statement that it occurred in eight per cent. was true up to that time, but did not apply under altered surgical conditions. Ligature of the large arteries was comparatively rare. At St. George's there had been six cases only of ligature of the femoral in five years. However, the experience of any single hospital was often fallacious. Secondary hemorrhage was now very rare, and would become still rarer with each simplification of treatment. Syme, without antiseptics, cured twenty-three cases. The first great treatment of secondary hemorrhage was by pressure. In the sudden detachment of ligatures it was best to take up the vessel. He would dissuade ligature of the iliac. Prevention was all important and the broad aorta ligature was most desirable. Lastly, under modern advances in surgery all the operative measures alluded to could be undertaken with confidence.

MR. BENNETT MAY, of Birmingham, said the ideal was to obtain rapid union of wound over ligature, so that the process might be subcutaneous. Silk could not be relied on equally with animal ligatures. In his experience the sinus often remained after using silk. With simple gut he thought it essential to divide the inner coats. There was a question in his mind between chromic and ordinary gut. He had seen chromic gut come away unaltered three or four months after ligature. Catgut he had found successful in all but the largest arteries, such as the innominate. It should be tied tightly and round gut should be used. With silk it was advisable to leave the ends out. Some chromic gut might fulfil all conditions, but the surgeon was very much in the hands of the manufacturer. Failure in tying the innominate was due to the wound being ill adapted for early union and constant motion of the chest. Ox aorta was too elastic to be tied sufficiently tight, and was apt to break at the moment of highest tension in big vessels. In future he should use kangaroo tendon for the innominate, and would close the wound at once without drainage-tube.

MR. HERBERT PAGE mentioned several cases of double aneurism. He had treated many cases successfully under old methods in 1870, when there was no exorcism of germs.

Dr. W. Thomson, of Dublin, said that there were no new proposals; it was a choice between old methods. Most surgeons of the present day thought it necessary to use a broad ligature, causing obliteration of vessel. The conditions of success were often wanting in these operations. If an artery could be obliterated without dividing the inner coats, we were not justified in doing so. His own predilections were in favor of aseptic silk. He had had secondary hemorrhage with catgut. Chromic catgut had often produced a sinus lasting until its expulsion. Ox aorta tape he had used for the innominate, and had found that the vessel was not closed, but had a minute chink. It was hard to close a large vessel without using force enough to divide the inner coats. The tape was advantageous in vessels of next size to the innominate. To avoid disturbance of parts and to secure rapid union were important indications. Among the chief causes of secondary hemorrhage were suppuration, splitting of ligature, and disease of vessels.

Surgeons should Prepare their Own Catgut.—Mr. Damer Harrisson, of Liverpool, said that in twenty years' large hospital practice he had seen but one case of secondary hemorrhage after tying large arteries. The preparation of catgut was all important. If surgeons were to prepare their own catgut its use would be entirely justified. He personally quite believed in dividing the inner coats. Ox aorta could not be tied firmly enough for safety. In one case brought to him a surgeon had opened a popliteal aneurism in mistake for an abscess. By extending the wound he was able to tie the vessel by catgut ligatures. The result was successful, although the inner coats were not divided.

Dr. H. O. Marcy, of Boston, Mass., said that for many years he had given special attention to the subject of ligatures. He had come to the conclusion that silk embedded in tissues was the best general suture. Catgut was entirely dependent on methods of preparation. Ordinary catgut in its first stage was a seething mass of corruption for days together. He agreed with the last speaker that every surgeon should prepare his own catgut. The fibres were arranged in a kind of lattice-work and not parallel to the long axis, an arrangement which did not afford the greatest amount of strength. He had grown a variety of bacteria from catgut taken from carbolized oil. In one case a myoma was ligatured with kangaroo tendon and healed perfectly, while the superficial wound, sewed with catgut, became septic. So long ago as 1827 Dr. Jamieson, of Baltimore, introduced an animal ligature, in the shape of the buckskin ligature of the native Indians.

Dr T. C. Parkes, of Chicago, Ill., said that twenty years back he used silk for the femoral, and cure resulted. Now he used catgut, with equally good result. Success was dependent on the amount of pressure and the absence of suppuration. He agreed generally with what had been said by Mr. Holmes.

Mr. T. H. Bartleet, of Birmingham, said that secondary ligature after tying of large arteries was likely to occur less and less frequently under improved methods of treatment. Harrison Cripps mentioned ligature of external iliac only to condemn it. Erichsen recommended tying of bleeding-points. Aseptic sponges, as recommended by Mr. Jordan, were useful. In one case it succeeded where the axillary actually slipped out of sight. The depression in cases of secondary hemorrhage was quite out of proportion to the cause. He had ligatured the external iliac successfully, and deprecated the way in which that operation was condemned.

Mr. T. Holmes said that there was little to reply to, as his statement had been favorably received. He quoted a fatal case of secondary hemorrhage where the bleeding-points were tied, and in which amputation would have been the proper treatment. In a great number of cases ligature of the external iliac had proved unsuccessful. There were, however, cases of recovery on record where no treatment had been adopted.

Recovery after Abdominal Section.—Mr. Lawson Tait, of Birmingham, showed several cases of recovery after abdominal section. In one a large papilloma of the ovary was removed. In others a large quantity of purulent fluid was evacuated, and the free discharge of caseous masses at the time (and subsequently) was followed by recovery.

Paraffin Casts of the Interior of the Kidney.—Mr. Jordan Lloyd, of Birmingham, showed a most interesting and original series of paraffin casts of the interior of the kidney. He maintained that the conceptions hitherto held of the so-called pelvis were erroneous. The casts were obtained by injecting paraffin into warm kidneys. Authorities described the kidney interior as a funnel-shaped bag, whereas in reality it was a series of tubes. This fact threw a new light on the surgery of renal calculus. There was no great skill required to remove a large renal calculus; it was the removal of small stones that was difficult and from which the best results were obtained. The ordinary teaching was that stone in the kidney was analogous to stone in the bladder; but in the kidney it was buried in solid tissues. Several ways had been suggested for finding the stone. Personally, he used the lumbar incision. There were the methods of palpation, puncture by needle, sounding. Bruce Clarke proposed incision of the lower part of the kidney to introduce the sound, and condemned digital exploration. Lawson Tait utterly condemned prodding the kidney with a skewer, and advocated finger exploration. By working the finger through the hilum, however, the whole of the system of secondary tubes could be explored. A double ureter might in this way be detected, a condition that would cause the greatest difficulty by ordinary plans.

Mr. Bruce Clarke, of London, said that his own experiments had shown that exploration might best be effected by cutting through the kidney substance into the lower calyx. The plan of scratching through the hilum would endanger the vessels and other structures. In one case of sudden death after removal of a small stone, a clot had probably been dislodged from the vein.

Nerve-grafting.—Mr. Atkinson, of Leeds, read a paper on nerve-grafting. Five cases were narrated. The writer concluded that functional union took place rapidly in these cases; that healing by first intention, and even asepticism, did not appear to be absolutely indispensable in these cases; and that restoration of muscular movements was always delayed, sometimes long after sensation was established.

TENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Berlin, August 4, 5, 6, 7, 8, *and* 9, 1890.

(Special Report for the Medical Record.)

(Continued from page 188.)

SECTION ON SURGERY.

Monday, August 4th, First Day.

Aseptic Surgery.—There was no regular meeting of the Section on this day, but the members assembled in the amphitheatre of the surgical clinic in Ziegelstrasse to listen to a lecture by Professor v. Bergmann on his aseptic (as opposed to antiseptic) method of operating. This method, he explained, is based upon the belief that wounds are seldom, if ever, infected through the medium of the air. The dust containing the noxious germs comes in contact with the open wound for a short time only, and, as a rule, gives rise to no infection. The walls of the operating-room should be smooth and easy to clean, and the floor is to be kept wet, so as to prevent the dust from rising. During an operation every precaution is taken to prevent the infection of wounds by contact. To this end—

1. The patient's skin is thoroughly disinfected at, and for some distance around, the place of operation. The skin is soaped and shaved, washed with soft glycerine

(potash) soap and sterilized water, and then rubbed dry with a sterilized towel. This rubbing should be done vigorously and carefully, in order to remove the superficial layers of epidermis, to which we find the impurities adhering which contain the infecting micro-organisms. After this the skin is washed with a solution of forty per cent. to fifty per cent. alcohol, and finally with a 1 to 2,000 sublimate solution.

2. In exactly the same manner the hands of the operator and his assistants are washed and made aseptic. The brushes which are used for this purpose are kept in a 1 to 2,000 sublimate solution, a precaution by no means superfluous, as bacteriological investigations have demonstrated the fact that great numbers of micro-organisms adhere to such brushes as are left exposed.

3. For each operation the patient is placed on a dry linen sheet, which has previously been sterilized, and is covered with similar sheets, so as to leave merely the region to be operated upon uncovered and freely accessible.

4. The instruments before use are boiled for five minutes in a one per cent. solution of carbonate of soda. In this solution they remain until required for the operation; then they are taken out, dried with a sterilized piece of gauze, and handed to the operator when he wants them. Whenever, in the course of the operation, they come in contact with anything not aseptic, all that is required to resterilize them is to dip them for a few seconds into the boiling solution of sodium-carbonate.

5. During the operation hemorrhage is most carefully controlled by means of pieces of gauze, which have been rendered aseptic shortly before. This gauze is not impregnated with any antiseptic agent, nor is it dipped into any antiseptic solution; but is pressed perfectly dry on the bleeding surface, and then discarded. All vessels are secured with torsion-forceps or Péan's forceps, and tied with catgut ligatures. The wound must be thoroughly dry and the hemorrhage completely stopped before the sutures are applied.

6. The catgut for ligatures is prepared from the commercial article by winding it in a single layer round a narrow glass slide and placing it in a five per cent. alcoholic sublimate solution. The silk for sutures is sterilized by steam.

7. The most essential condition for operating aseptically is the sterilizing of whatever the operator, assistants, or patient come into contact with. For this purpose all the towels, sheets, and surgeons' gowns, which are to be used for the operation, are, shortly before, placed in the sterilizing apparatus, where they are rendered aseptic by means of a current of steam. In this apparatus steam is allowed to pass from below through the contents, and the latter remain there for half an hour after they have arrived at the temperature of boiling water, so as so insure complete sterilization.

8. In exactly the same manner, and in the same apparatus, all dressing materials are rendered aseptic. The gauze is cut into pieces of the shape and size required for the dressings and for the operations in the clinic. These pieces, as well as all cotton-wool and bandages, are stuffed into bags, which are closed and put into the apparatus. There they remain until needed. Then they are taken out, opened, and their contents placed between aseptic sheets, and thus brought to the operating-table. The nurse who attends to this should also have previously disinfected her hands in the manner before described.

The speaker then applied the dressing in a case of carcinoma of the breast, which had just been operated upon by one of his assistants, and explained that such dressing would not be disturbed for eight days. He then removed the dressings in three other cases which had been operated upon a week previously. The wounds were in excellent condition, no suppuration having occurred. Other cases were shown in which suppuration had occurred before the operation was performed. One of these was a case of excision of the hip. The wound in this case would be stuffed with iodoform gauze, the speaker said, for two days, at the end of which time the gauze would be removed and the wound closed by sutures. Other similar cases of exsection of the hip were shown, in which the operation had been performed some time previously. In all of the older cases the wound had healed and the patients walked well without pain, though in all there was more or less shortening and also some flexion of the thigh. There was, apparently, some motion of the joint.

Congenital Dislocation of the Hip.—Two cases were then shown of congenital dislocation of the hip, one single and one double, wearing a specially devised apparatus, models of which were exhibited in the Exposition building. The children did not walk as well as patients with this deformity usually do without apparatus, and the braces were clumsy-looking, apparently difficult to fit to the case, and easily rendered ineffective.

TUESDAY, AUGUST 5TH, SECOND DAY.

PROFESSOR V. BARDELEBEN opened the first session of the Surgical Section with a few words of welcome, in which he congratulated his fellow-members upon the enrolment of nearly one thousand names in the Section. He referred to the recent death of Volkmann, and called upon his hearers to rise in honor of his memory.

Surgical Osteogenesis.—DR. OLLIER, of Lyons, began the scientific work of the Section with a paper on this subject. He recalled the fact that Langenbeck, in 1859, had been the first to make practical use of the author's experiments in this direction by performing a periosteal rhinoplasty. He would divide the paper into two parts, treating first of subperiosteal resection and then of bone grafts.

Subperiosteal Resection.—There had been a sort of reaction of late against this operation, many surgeons having come to the belief that the results were unsatisfactory and in no way paying for the trouble of the operation. The speaker had performed more than five hundred resections and had had many opportunities in recent years to verify the results of these operations. In regard to the bones of the arm and forearm the new-formed osseous tissue took the shape essentially of the normal bone. The growth was principally in the direction of length, and in the case of the lower extremity of the humerus, at least, this was shown to take place chiefly by a compensatory hypertrophy of the epiphyseal cartilage. This occurs only when the member has regained its functions. It had been asserted that the newly formed bone would be reabsorbed, but the author's experience proved conclusively that this assertion was inexact. Volkmann thought that antiseptic dressings, by diminishing irritation, would interfere with the healing of fractures, but this fear was also shown to be unfounded. It has been claimed, also, that very extensive resections, such as are sometimes made in cases of tuberculosis, would interfere with the regeneration of new bone. This was the fact, and it was necessary, therefore, to remove only so much of the bone as was actually tuberculous, respecting the inflamed but not really diseased portions, as these were of great assistance in the process of regeneration of the osseous structure. The following were the results which he had obtained in the different joints: In the shoulder, always an enarthrodial joint; at the elbow the bone was reproduced with a shape very like the normal; in the wrist the results were less favorable because the carpal bones could not be reproduced; at the hip the results, in an orthopedic sense, were unsatisfactory; in the knee it is impossible to obtain a movable articulation, yet the author always practised subperiosteal resection here, as that was the best way of securing firm osseous union; in the case of the ankle he invariably removed the astragalus, obtaining thus a strong and movable joint.

Periosteal Grafts.—It has been conclusively shown by

autopsies and experiments upon animals that there is regeneration of bone as a result of periosteal and osseous grafts, but the new formation is not very pronounced. The author always preserved a thin layer of bone attached to the transplanted periosteum, and since adopting this practice he had obtained much more satisfactory results. As regards the use of bone plugs he thought the method was too recent to permit of its being judged correctly. In his experiments upon animals he had seen the pieces of bone disappear after a time. In some cases they seemed only to excite an irritation in the tissues, and under such circumstances he thought it would be preferable to employ pegs of ivory or platinum.

Tuberculous Ascites.—Dr. Koenig, of Göttingen, then read a paper on this subject. The disease was more common in women than in men, 16 only out of 137 cases which he had collected having been in the male subject. His treatment consisted in laparotomy followed by thorough lavage of the abdominal cavity with boiled water. Of 14 cases so treated by him, 7 were now in good health; 3 were dead from the original disease, the fatal result not having been hastened, however, by the operation; 1 died from collapse following the laparotomy, and 3 had been lost sight of. Among those operated on by other surgeons, the statistics of which he had been able to obtain, many were still in excellent health. One patient was still alive and well who had been operated upon by Sir Spencer Wells twenty-five years ago. Out of 131 operative cases which he had collected, 30 were alive two years after the operation, and 14 more than three years after. He did not admit as cured any cases in which life was not prolonged at least two years after the operation had been performed. As to the mode of cure, a comparison of statistics showed that it did not depend upon the kind of operative procedure employed, since all had given equally good results. The chances of a cure depend upon the extent to which the peritoneum is infected. This infection is ordinarily the consequence of tuberculous lesions of the intestine, and it is probably in those cases in which the changes in the mucous membrane are slight in extent, or already in process of healing, that a cure of the peritoneal disease takes place. After lavage of the peritoneal cavity further infection does not occur, and thus the cure is maintained. The remaining tubercles in the peritoneum are not removed by the lavage alone, but are gradually destroyed by the cicatricial contraction of the bands left after the operation.

The paper was discussed by Drs. Démosthène, of Bucharest, Subbotic, of Belgrade, and Kümmel, of Hamburg.

A Much-operated Patient.—Dr. Schuchardt, of Stettin, showed a young girl upon whom he had performed three operations within about a week for the relief of a typhlitic abscess. After the third operation the formation of pus within the abdominal cavity ceased, but still the fever continued, and it was then discovered that the girl was suffering from a pleurisy. Exploratory puncture showed the effusion to be serous, but containing many streptococci, so the speaker determined to perform resection of the ribs. This he did, and the patient recovered from the typhlitis, the pleurisy, and the four operations.

Treatment of Tubercular Peritonitis.—Dr. O'Callaghan, of Carlow, Ireland, presented a paper on this subject in which he advocated the thorough cleansing of the peritoneal cavity after laparotomy, giving the results in several cases of this nature which he had so treated. In the matter of a diagnosis he advocated a small exploratory incision, holding that the introduction of a finger would do no harm, and enabled one to arrive at a diagnosis much more easily and surely than could a simple puncture.

Treatment of Goitre.—Dr. Rossander, of Stockholm, presented a communication upon the experience of Swedish surgeons in extirpation of the thyroid gland for the relief of struma, an affection which occurred with tolerable frequency in his country. He advocated very strongly partial or complete extirpation of the thyroid gland, in spite of the assertion of physiologists concerning the vital importance of that organ. In the first place, he argued, it is not always allowable to reason from the lower animals to man, and what may be of supreme importance to a dog may possibly be easily dispensed with by man; and in the second place, the functions of the excised gland may in great measure be performed by the spleen. He would, however, advise the surgeon to proceed cautiously, removing only a portion of the gland at first. But if this did not suffice for a cure, he would without hesitation extirpate the entire organ.

Scrotal Tumor and Other Troubles.—Dr. Bockenheimer, of Frankfort, presented the photograph of a man, forty-five years of age, who was born with a flat foot, and later acquired elephantiasis. After this, lateral curvature of the spine appeared, and became so marked that the patient walked bent, laterally, almost to a right angle. Finally there came in the place of the scrotum a tumor, twenty inches in length, the external appearance of which resembled in no respect the integument of the scrotum. It was impossible to remove this tumor, and the only treatment for it had been the construction of a suspensory bandage.

Wednesday, August 6th, Third Day.

Surgical Treatment of Intussusception.—Mr. Jonathan Hutchinson, of London, read a paper on this subject, in which he advocated laparotomy and the drawing out of the intussusception by means of a long tube made of glass and caoutchouc. He had treated a number of cases in this way with a large percentage of successes.

Mr. Howard Marsh, of London, called attention to the great danger of collapse, after laparotomy, in children, and urged the necessity of caution on that account.

Resection of the Stomach and Intestines.—Dr. Billroth, of Vienna, presented the statistics of all the cases of resection of the stomach and intestines performed in his clinic in the years 1878–90. He excluded those cases in which operation was necessitated by gangrene of the intestine, and presented only those in which resection was performed for the removal of intestinal tumors or for the relief of stenosis of the pylorus. There were in all 124 cases, of which the author himself had performed 83, the rest having been done by his assistants. Forty-one of the total number were resections of the pylorus, and of these 28 were for carcinoma and 1 for sarcoma. The time required for the operation varied between one and three-fourths and three and one-half hours. The excised pieces varied in length from 4 to 21 ctm. Of 27 cases of typical pyloric resection, 15 died and 12 recovered; and of the entire 41 cases there were 19 recoveries and 22 deaths. A number of those who recovered died from return of the disease at the end of from one to eleven years. Four of the cases were still alive, two of whom, at the end of one and five years, respectively, seemed to be entirely free from any return of the disease. There were several cases in which there was no stenosis, but merely a sharp bend at the pylorus; three of these, in which it had been very difficult to detect the bend, ended fatally, one from collapse and two from peritonitis, the latter probably in consequence of defective antiseptic treatment.

Enterotomy.—There were 28 gastro-enterotomies performed, fifty per cent. of which recovered. Of 11 patients upon whom resection of the small intestine was performed, all recovered. Of 24 cases of operation on the cæcum 11 died; and of these 24 cases there were 11 of carcinoma, 6 of whom died and 5 recovered. There were 8 cases of operation upon the colon, of which 4 recovered; two of the operations were for fecal fistula, one of which resulted fatally. Collapse was the cause of death in 6 out of the 22 fatal cases of pylorectomy, and

in 9 of the 14 deaths after gastro-enterotomy, although the former operation takes much more time than the latter. This was explained by the author by the fact that gastro-enterotomy is more often performed in persons who are already in a low condition. In regard to sutures it is well not to make them too deep for fear of causing gangrene of the intestinal wall. It has been objected against this class of operations that the probability of a complete recovery is too slight to weigh against the great danger of the operation. In reply to this Dr. Billroth held that a radical cure of carcinoma occurring in other parts of the body was seldom obtained, and that the average time before a return of the disease took place was as long here as when the neoplasm was found in other parts, and yet no one hesitated to operate in the latter case. The danger of operations on the intestinal tract lay in the technique; but the author believed that in time we should be able to overcome these dangers, and that then it would be no more hazardous to operate for carcinoma in the stomach and intestines than it is now to remove the neoplasm affecting other parts of the body.

Dr. Postempski, of Rome, related two cases in which he had performed gastrotomy; one of these, occurring in a boy of ten years, resulted favorably, while the other, in an old woman suffering from carcinoma, terminated fatally.

Dr. Novaro, of Sienna, reported ten cases of pylorectomy and eleven of gastrotomy. His experience led him to favor the Wölfler method of operating.

Dr. Lauenstein, of Hamburg, presented the statistics of twenty-five cases of resection of the stomach performed by him, twelve of which were for the relief of pyloric stenosis. He insisted especially upon the necessity of a strict observance of every possible antiseptic precaution.

The Technique of Resection of the Stomach.—Dr. Knie, of Warsaw, read a paper on this subject. The vitality of the mucous membrane of the stomach and intestine depends upon the circulation in the outer layers, and therefore he recommended that special measures be taken to prevent a cutting off of the circulation in the serosa and musculosa.

Dr. Bernays, of St. Louis, said that he had had several cases of gastrotomy after the Wölfler and Hacker methods, but the patients did badly, although the fatal result could not be attributed directly to the effects of the operation. He then adopted a method of operating which is used to some extent in England, but is practically unknown as yet in Germany. This consists in making a very small opening in the anterior wall of the stomach, through which the finger is introduced and as much of the diseased part removed as possible, the rest being scraped away with the sharp spoon. He reported a case of a tumor as large as a cocoa-nut which he removed successfully in this way. The tumor weighed a pound and a half, and was removed through an opening only two and a half inches in length. The author believed that Billroth's operation of resection of the stomach might render good service in individual cases, but he thought too much reliance should not be placed upon it.

Dr. Mayot, of Antwerp, referred to the statistics of a number of cases of resection of the stomach performed by himself. Of upward of 80 cases of intestinal operations that he had performed, there were 30 cases of resection, the balance being operations for closing of fistulæ. Of these 30 cases 9 were resections of the colon, 3 having been operated upon more than once. The speaker advised a double row of sutures, one through the mucosa and the other through the muscular coat. He was in accord with the plan approved also by v. Volkmann, of not resorting at once to a resection in cases of carcinoma of the intestine. He would first make an artificial anus, and later, if no return of the disease took place, close the opening and perform a resection of the gut.

Dr. Koenig, of Göttingen, hoped that there were few members of the Section in accord with Dr. Bernays in condemning Billroth's operation, an operation which he regarded as marking one of the greatest advances of recent times. The sharp spoon was of value in former times before the operative technique had reached its present stage; but it was now, or ought to be, obsolete. No one should ever, at the present day, treat any neoplasm, whether it were in the skin, the stomach, or intestine, with the sharp spoon.

An Improved Wölfler Operation.—Dr. Wölfler, of Gratz, reported a modification which he had been led to make in his operation. He no longer united simply the under wall of the stomach with the duodenum, but turned the latter round in a curve before uniting it to the stomach. In this way he maintained that the peristaltic action of the stomach and duodenum coincided in direction, whereas, in the former method, two peristaltic waves running in opposite directions met at the point of union of the viscera.

Thursday, August 7th, Fourth Day.

Prostatic Hypertrophy.—Dr. Enrico Bottini, of Pavia, described the method for relief of this condition, which he had first published in 1877, and had since modified and improved. There were two distinct operations, according as the object was to remove wholly the enlargement, or simply to cut a grove for the passage of the urine. The first is effected by means of a galvano-cautery of such strength that the entire operation can be done within a few minutes at a single sitting. The author now uses a storage battery, charged from a dynamo, which is powerful enough to raise pieces of platinum of considerable size to a red or white heat almost instantly. The cauterizing apparatus resembles a Mercier's sound somewhat. It consists of four parallel tubes, two of which are for the wires, and the other two for the purpose of conducting a stream of water to keep the instrument cool. The cautery proper consists of a U-shaped ribbon of platinum passing over a small porcelain cylinder, which serves at the same time for a support and to retain the heat. The instrument is introduced into the bladder and then withdrawn, so that the cautery rests against the third lobe of the prostate. The electrical current is then turned on, and the gland is burned. Often the burning tissues can plainly be heard sizzling. The patients do not complain of any severe pain during the operation. Care must be taken on withdrawing the instrument not to tear away the eschar, as there is then some danger of hemorrhage.

The incisor apparatus resembles Mercier's instrument, except that the cutting part is of platinum instead of steel. The operation consists in three parts, namely, introduction, incision, and withdrawal. The introduction is effected in the usual way, then the current is turned on and the knife pressed against the tissue to be cut through. When the sound of the burning tissue is plainly heard the knife is to be moved gently back and forth until the projecting lobe is thoroughly divided. Then the knife is concealed in its sheath, the instrument pushed forward into the bladder to insure that it is not caught anywhere, and then withdrawn. As to a choice between the two operations, the author thought that the total destruction of the obstructing lobe was advisable when the hypertrophy is not very great, but that in advanced cases it would be better to cut through it. Either operation would be contra-indicated when kidney disease was present, or even suspected. Dr. Bottini had operated after this method on 57 cases, 2 of which had resulted fatally; these, however, were during the early days of the operation, before the instruments had been brought to their present state of perfection. In 32 cases a perfect cure had been obtained, in 11 there was an improvement, and in only 12 was no benefit observed. These results in the case of an affection which was so rebellious to ordinary treatment were a powerful argument in favor of the method, and the author hoped soon to see it adopted more generally by surgeons than it had yet been.

Mr. McGill, of Leeds, said that it was necessary to work here in the dark, and he thought therefore that the operation was inferior to cystotomy, the results of which under improved technique were now extremely favorable.

Mr. Bruce Clark, of London, had been much interested in Bottini's method. One operation of this kind in his hands had resulted successfully, but others, performed later, had failed. The cause of the failure was that changes had occurred in the hypertrophied gland which it had been impossible to discover. In order to know with certainty what has taken place in the bladder a cystotomy is necessary. In many cases, however, in which one thinks that he has to do with an hypertrophied prostate, the gland is simply inflamed, and will return to its normal size in a short time without any further treatment.

Lateral Prostatotomy.—Dr. Kuester, of Berlin, called attention to the operation of lateral prostatotomy, which had been proposed by Dittel, but had been tried by him only on the cadaver. The speaker had operated in this way twice on the living subject, in cases in which the lateral lobes of the prostate gland were enlarged. In both instances the operation was very successful. In one case the urethra was accidentally wounded, but the resulting fistula healed kindly.

A New Operation for Cancer of the Rectum.—Dr. Axel Iversen, of Copenhagen, then presented a communication on this subject. One can never know with certainty whether the disease is limited to the rectum or whether the neighboring glands are also involved, and it is therefore difficult to settle the question as to whether an operation is indicated. Colotomy will relieve for a certain time, and often indeed for a long time, the symptoms dependent upon the coprostasis, but it does not help the pain nor reduce the fetid secretion. The want of a more radical operation for the relief of this terrible disease is therefore still urgently felt. It is known that cancer of the rectum often remains stationary for a long period, and the author had made autopsies on 47 long-standing cases of cancer of the rectum, in 21 of which there had been no metastasis. This fact gives hope of success from a radical operation. In judging of the latter we need not consider the direct mortality so much as the tendency to a return of the disease. The author then presented some statistics of 247 cases of operation for rectal cancer performed in the Scandinavian countries, which showed only a very small number of patients who had survived the operation for several years without having had a local relapse. The results of extirpation were slightly better, as regards prolongation of life, than those of colotomy, but they were little or no better in respect to relief from pain. The author then spoke of the different methods at present in favor, showing wherein they were defective. He thought too great an effort had been made to preserve continence of fæces, and the operations had therefore not been radical enough. The surgeon should not hope for too much—the essential thing is to make the operation a radical one. A partial operation should be undertaken only when the disease is strictly limited to the anus. In every other case, if one is to operate at all, it is necessary to perform total extirpation of the rectum, making a permanent artificial anus in the sacral region. Unless this is done it will be impossible to remove all the glands which are liable to be infected. The extirpation of the tissues surrounding the intestine is also necessary, as here are often located the "seedling" cancers (*cancers semés*). The operation is performed as follows: After a preliminary Kraske operation, with or without resection of the sacrum, oval incisions are made surrounding the anus and then the rectum is dissected out from below upward, care having been taken to tie a ligature around the anus in order to prevent the escape of the contents of the gut. All the presacral connective and adipose tissue is then removed. Next the peritoneum is opened and the intestine drawn down. Now the intestine and the parietal layer of the peritoneum are stitched together, and the cavity remaining after the operation is stuffed with iodoform gauze and drawn together by stitches. The author had operated in this way on six cases, four of which had resulted fatally.

Mr. Bryant, of London, was led, from his own experience, to oppose the operation of excision of the rectum, on account of the great mortality following it, and preferred colotomy with the formation of an artificial anus. This was the practice of most English surgeons.

Dr. Lange, of New York, spoke of the advantage of placing the patient upon the abdomen during this operation, as thereby the fluids were prevented from running into the peritoneal cavity. He had obtained good results from a plastic operation, by means of which the patients are enabled to retain the solid, and even fluid, contents of the intestine, though not always gases.

Dr. König, of Göttingen, had formerly regarded the prognosis of resection of the rectum as very unfavorable, but since adopting v. Bergmann's method had obtained much more favorable results. He preferred the high operation.

Dr. Czerny, of Heidelberg, thought that with improved technique the results of the operation would become much better. He thought the inguinal region preferable to the lumbar for the location of the artificial anus.

Operations on the Lateral Ventricles.—Dr. W. W. Keen, of Philadelphia, then read a paper on the operations performed by him in opening the lateral ventricles of the brain, explaining the mode of performance and the results obtained.

Friday, August 8th, Fifth Day.

Diagnosis of Shot-wounds of the Stomach and Intestine.—Dr. N. Senn, of Milwaukee, gave a demonstration of his method of diagnosis of shot-wounds of the intestines by means of the injection into the rectum of hydrogen gas.

Laparotomy for Shot-wound of the Abdomen. — Dr. Bernays, of St. Louis, reported a case of accidental shot-wound of the abdomen where a pistol-ball had perforated the stomach, liver, diaphragm, and pleura, in which he had performed a laparotomy, stitching up the stomach-wounds. The patient made a good recovery.

Vesical Calculus in Russia.—Dr. Levshin, of Kazan, presented numerous statistics relative to the frequency of stone in the bladder in Russia. He had collected upward of sixty thousand cases. Most of the cases occurred in young individuals. He had been unable to come to any satisfactory conclusion concerning the etiology of the disease.

Dr. Kusmin, of St. Petersburg, had seen a great number of cases of this affection in young children.

Dr. Aretæus, of Athens, said the disease was very prevalent in Greece, and he alone had operated on 256 cases, of which 99 were in children under ten years of age. In 20 of the cases the stone was in the urethra.

Dr. Poirier, of Paris, read a paper on the "Pathogenesis of Cysts of the Knee," in which he said that these cysts could arise from disease of the upper parts of the leg as well as from that of the lower parts of the thigh.

Dr. Lange, of New York, presented a new needle-holder, in which the needle was held much more firmly than in the ordinary instruments.

The Production of Artificial Hernia.—Dr. Bornhaupt, of Kief, read a paper upon the production of artificial hernia by men who wished to evade military service. Among certain classes of Russian subjects the aversion to service in the army is so great that the men will resort to almost anything that will secure them exemption. It is said that cataract is not infrequently produced to this end, and lately a number of men in a single regiment, all coming from the same portion of the country, were found to be suffering from hernia, which was supposed to have been artificially brought about by means

of an instrument shaped something like a glove-stretcher. These hernias were all situated on the left side, and it was thought that the instrument causing them was introduced into the rectum. It had, however, as yet been impossible to learn exactly how these injuries were produced.

Dr. Marcy, of Boston, then demonstrated the sutures used by him, which were made out of kangaroo gut.

Treatment of Stricture by Linear Electrolysis.—Dr. Leon le Fort, of Paris, read a paper describing his method of treating strictures of the urethra, rectum, and œsophagus by means of linear electrolysis. Of seven hundred cases of urethral stricture so treated he had had not a single failure. The operation was largely practised in France and Italy, and had lately been extended to the treatment of strictures of the rectum and of the œsophagus.

Dr. Kollmann, of Leipsic, showed a number of photographs of the urethra which he had made with the Nitze-Oberländer electro-cystoscope.

Mr. Weeks, of London, presented some drainage-tubes made out of sections of arteries, which he had used and found preferable to rubber tubes because of the fact that they were readily absorbed.

Surgical Tuberculosis.—Dr. Biondi, of Bologna, read a paper on this subject, in which he maintained that there were two varieties of tuberculosis, one characterized by multiplicity and activity of the lesions, the other by a local lesion running a rapid and favorable course. The disease can be propagated in other animals by inoculation with bacilli taken from the first variety, but not by those taken from the other. The author suggested that possibly the second variety was related to the tuberculosis of chickens, which is known to differ widely from that found in mammals.

Exstrophy of the Bladder.—Dr. Schmidt, of Heidelberg, showed some drawings and a model taken from a case of exstrophy of the bladder, upon which Dr. Czerny had performed a plastic operation with complete success.

A number of other papers were read, instruments shown, etc.

The different meetings of the Section were presided over by Drs. Bardeleben, Le Fort, Lister, Ollier, Novaro, Parkes, Rossander, Skliffosovski, Aretæus, and Rugio, and Prince Carl Theodor, of Bavaria.

ECHOES FROM THE CONGRESS.

The Reception in the Rathhaus was perhaps the most memorable incident of the Congress: certainly it will never be forgotten by those who took part in it. Not only the large hall, but nearly every other room in the entire building was thrown open to the guests. Tables were everywhere, and buffets loaded with solid and liquid refreshment were nearly as numerous. Wine was to be had for the asking and even without asking, and the spirits of the guests rose rapidly. There was, however, notwithstanding the general hilarity, the utmost good nature and good order everywhere.

An Exhibition Drill of the Fire Department was on the programme for Wednesday morning at half-past eight o'clock. Punctually at that time the fire-engines with their crews were at the appointed place, where they waited until eleven o'clock, but no doctors appeared to witness the drill, as the Secretary-General of the Congress had forgotten to give notice of the exhibition.

The Three Largest Sections of the Congress were those of Internal Medicine, Gynecology, and Surgery. The latter numbered between 800 and 900 members.

"**The Journal**" of the Congress which appeared each morning was edited by Dr. S. Guttmann. The task was no light one, but the undertaking was very successful, thanks to the labors of the learned editor.

Unter den Linden was the cause of much disappointment to the foreign members of the Congress. The street is very wide and lined with cafés, hotels, and fine shops, but the linden trees are small and of uneven size, and look like mere bushes in comparison with the elms and other stately trees to which American eyes are accustomed.

An International Congress of Cremation Societies was held in Berlin August 4th, 5th, and 6th. An invitation was extended to the members of the Medical Congress to be present at their sessions, but was not very largely responded to.

Excursion to Havel Lakes.—One of the most enjoyable excursions was that given by the Berlin Laryngological Society to the Laryngological Section. The members were taken a short distance by rail to the shores of the Havel Lakes, where they embarked on a steamer and sailed for a couple of hours through those beautiful waters. Although unlimited refreshments were served on the boat, soon after landing near Potsdam the guests sat down to a dinner in the open air. Here many toasts were drank and numerous complimentary speeches made. At a seasonable hour in the evening the party was brought back to Berlin.

The Weather.—Those who believed they were going to a northern land where the days were never oppressively hot and the nights always cool were grievously disappointed in their expectations. Up to the very last day of the Congress the heat was excessive, and the sufferings of those taking part in the general or section meetings were very great. The atmosphere in the Circus Renz especially, at the time of the first general meeting, was absolutely frightful. The day was warm, the hall was packed to suffocation, numerous gas-lights did their part in consuming the oxygen, and then there was not the slightest provision for ventilation. The Exposition Building, where the sections met, resembles very much an enormous hot-house, but it is so large that the lack of provision for ventilation was somewhat less noticeable here than in the Circus Building. The Congress was fortunate, however, in the fact that rain fell but once during the week, and that late at night, so there was no interference with going about during the day or with the open-air festivities in the evening.

Attendance.—The Berlin Congress will probably for a long time be remarkable among the others for the very large number of registered members. The total number was 5,737, distributed among the different nations as follows: Berlin, 1,166; Germany, outside of Berlin, 1,752; Austria-Hungary, 262; Great Britain and Ireland, 358; Holland, 112; Belgium, 62; Luxembourg, 2; France, 179; Switzerland, 67; Italy, 146; Monaco, 1; Spain, 41; Portugal, 5; Sweden, 108; Norway, 57; Denmark, 139; Russia, 429; Turkey, 12; Greece, 5; Roumania, 32; Servia, 2; Bulgaria, 5; United States, 659; Canada, 24; Brazil, 12; Chili, 14; Mexico, 7; other countries of America, 30; Egypt, 8; Cape Colony, 1; other parts of Africa, 5; China, 2; Japan, 22; East Indies, 2; Dutch East Indies, 2; Australia, 7;

Dr. Rudolph Virchow, President of the Committee on Organization, was a grand success; the Secretary-General was not.

The Ladies' Reception Committee.—A committee, composed of the wives of some of the Berlin physicians, was formed for the purpose of entertaining the wives and daughters of the visiting members. Some of them were always to be found in the statuary hall of the Exposition Building. Their services were most graciously rendered and were gratefully appreciated by the lady guests. Under their guidance the visitors saw many of the sights of the city and visited many of the charitable institutions.

"**Festgaben.**"—To each of the members of the Congress was presented two or three large bound volumes

containing a fdll description of all the hospitals, clinics, asylums, charitable institutions, both public and private, sanitary works, laws relating to hygiene, etc., in Germany. Indəed, one became a little tired of hearing so much about the remarkable progress in matters of hygiene and sanitation in the German Empire, and especially in Berlin. The presidential address was largely devoted to a review of such works in Berlin; excursions to the waterworks, sewage-farms, slaughter-houses, and other similar places were planned for nearly every day during the sessions of the Congress; the books above referred to were distributed gratuitously to the members, and yet, in the practical and eminently hygienic matter of ventilation there was a lamentable deficiency. Not only in the places of meeting, where the atmosphere was hot and insufferably close, but elsewhere in Berlin was this most noticeable. Even in the street-cars the windows and doors were kept tightly closed, and the conductor's chief end seemed to be to prevent the admission of any fresh air to the interior of the vehicle. Yet the passengers appeared to like it.

Extracts from the Journal.—*Lost.* A member on the occasion of the Reception in the Rathhaus has lost a large brilliant ring of the value of 3,000 marks. It is requested that the finder should return the same to the Bureau of the Congress (Ausstellungspark).

A member of the Congress who lay from 11 to 2.30 in a state of unconsciousness at the Rathhaus on Tuesday evening, and who was attended by several confrères who injected ether, requests the gentlemen who accompanied him to his house to leave their name and address in the Bureau of the Congress.

During the reception in the Rathhaus one of the guests has taken his Gibus for mine. He is begged to return it to the following address.

One Result of the Congress was stated by a Berlin newspaper to have been the publication of four hundred engagements of marriage. Evidently Science was not the only attraction drawing the two thousand German strangers to the imperial city.

Sudden Death Illustrated.—Among other objects in the medico-scientific exhibition were several preparations illustrating some of the modes of accidental death. One specimen was that of a man who made a wager that he could swallow a beefsteak whole. He died in consequence of the attempt, and the preparation showed the meat still sticking in his throat. Another was that of a woman who suddenly fell down in the street, and died before medical assistance could be obtained. Her false teeth had become dislodged and choked her. In another specimen illustrating sudden death from asphyxia the accident was shown to have been caused by a quid of chewing tobacco in the larynx. Several skulls crossed in all directions by numerous red lines had been taken from men killed by falling from a height. Comminuted fracture had occurred, and the red streaks showed the lines of union where the various pieces had been cemented together. Other skulls showing bullet-wounds were to be seen, and one was exhibited with an axe firmly driven through the bone where it had been implanted by the wife of the victim.

The English Programme was for some reason delayed in its publication, not appearing until the day after the opening of the Congress.

The Streets of Berlin compare very favorably, in the matter of cleanliness, with those in most American cities. This is in large measure to be attributed to the fact that many of them are paved with asphalt, and can thus be easily swept by the gangs of street-cleaners. These latter are armd with rubber scrapers and follow the watering-carts, gathering all the mud and manure into little heaps along the curb, which are then carted away before they have had time to dry and be spread again over the street.

THE TENTH INTERNATIONAL MEDICAL CONGRESS FROM AN AMERICAN POINT OF VIEW.

To the Editor of the Medical Record.

Sir: The Tenth International Congress is finished and most of its six thousand members have gone away. The impressions made as regards its success are various and depend somewhat upon the personal experiences of the visitors. On one point all are agreed: the social part of the meeting was carefully arranged and carried out to the immense satisfaction and enjoyment of everyone. The municipality and the physicians of Berlin lavished their money and time in providing dinners, balls, excursions, and the humbler social reunions for their guests. Perhaps the most notable entertainment ever given in the history of medicine was the grand banquet at the new Rathhaus (Town Hall) Tuesday evening. It was necessary to provide for the simultaneous feeding of four or five thousand men and it was successfully done. The Rathhaus is a beautiful building, with large halls and broad corridors, all of which were filled with tables. These were loaded with viands and dark with bottles of wine. The affair began at nine and five minutes later the tables were nearly full and three or four thousand doctors were hard at work. The wine was supplied without stint and it was the opportunity of a life to our German confrères. They eat and they drank; then they drank, and finally they drank again. A general feeling of exhilaration gradually came upon all; they laughed, they talked, they sang, they embraced, they clinked their glasses; eternal amity was sworn, bald heads were baptized in excess of warm champagne. By twelve o'clock the three big halls, the corridors, the staircases, and all the smaller rooms were filled with a joyful panorama illustrating the gayety of nations. The band played, the men of science sang, and toasted all the tribes of the earth. Some such colossal scenes may have occurred among the gods of old Olympus, but never before at a meeting held in the interests of science. The learned men went home that night and felt that the world was advancing and that the great municipality of Berlin was at its head.

The Section dinners went off more quietly. The great ball had to be divided into five parts, but each of the parts was well attended, well organized, and greatly enjoyed.

The parting feast on Saturday night came off at Kroll's Garten. This is a higher class of beer garden with a theatre connected with it—a charming place withal. A concert was given in the theatre while beer flowed freely in the Garden, as it always does in Berlin. By twelve o'clock, the assemblage was ready for a speech and Virchow made one, after which, amid many "hochs" as well as American cheers, the old gentleman was lifted up and carried around in triumph.

We all felt that too much praise could not be given to the physicians of Berlin for their courtesies to their guests.

Leaving this, however, and turning to the scientific side of the Congress, we have a very different story to tell. The Section organization was wretched and in many cases came as near being a failure as was well possible. The German does not in the least understand how to organize medical meetings. No lists of members were furnished, the announcements of papers to be read were most imperfect and incomplete, and many found that they could get no chance to read at all. America was well represented in most sections, but anyone who spoke English received scant attention, while the Germans would read and talk almost indefinitely.

In the Surgical Section a little stir was made by the paper and demonstrations of a Berlin surgeon, who excises joints, puts in ivory joints in place of those removed, and, as he claims, secures healing with motion and fairly useful limbs. He showed on a skeleton his various forms of ivory joints for the knee, ankle, wrist, etc. The comments on the method, however, were very unfavorable and severe.

Mr. Horsley made a most favorable impression by his paper on the surgery of the brain, and by his demonstration of the cortical centres for the larynx. In the Laryngological Section one of the best papers was by a Brooklyn physician, Dr. French, on the physiology of the singing voice.

Dr. Andrew H. Smith's address in the Section on Internal Medicine was well spoken of, and Dr. H. C. Wood's address on "Anæsthesia," at the general meetings, also received many encomiums. In fact, so far as they had or took opportunity, the Americans did creditable work.

In the Ophthalmological Section some interesting discussions took place upon refractive errors, and the doctrine was promulgated that if these errors are properly corrected there will be no muscular asthenopia.

In the general meetings, of which there were only three, set addresses were given, and of these you have already published abstracts. The Germans are advanced in some things, but they have no idea of ventilating their public buildings (they prefer to sit and perspire), and the Renz Circus, where the general sessions were held, would make a total obscuration of the Black Hole of Calcutta if it were given half a chance. Still we all did penance there at least once.

The meetings of the Sections were held in a large, rambling, glass structure devoted to the annual exhibition of new and modern paintings. It is, I take it, the "Salon" of Berlin, but if so, Berlin is very far from being an art centre. This exhibition was closed for a week, so that the Congress could use the rooms. This was very kind and it was doubtless the best that could be done; but the rooms were large, high, and only partly enclosed, so that it was very difficult to hear the speakers—a fact which interfered greatly with successful discussions in many cases.

The exhibition held in connection with the Congress was a most extensive and interesting one. The collections of surgical instruments, of instruments of precision of all kinds, the balneological, pharmacological, pathological, microscopical, electrical, and other exhibits, afforded a most interesting opportunity for study. It was far in advance of previous displays of this kind.

America naturally was hardly represented at all, for our manufacturers get no market in Europe. In many departments of instrument making, however, we are in advance of the German manufacturers.

In estimating the value of such congresses as we have just had one must at once admit that it does not lie in new discoveries announced, or new ideas evolved, or great original work presented. It lies rather in meeting with co-workers from other lands, in forming pleasant associations with these, and obtaining opportunity to exchange informally and freely opinions upon work in which there is a common interest. Such meetings serve to broaden the science of medicine, to prevent dogmatism, and to pour into the common stock those established facts and those rational methods which make the basis of our art.

M.D.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 17 to August 23, 1890.

KENDALL, WILLIAM P., First Lieutenant and Assistant Surgeon. To be assistant surgeon with rank of captain (after five years' service), from August 12, 1890. Headquarters of the Army, A. G. O., Washington, D. C., August 18, 1890.

IVES, FRANCIS J., Assistant Surgeon. To be assistant surgeon with the rank of captain (July 25, 1890), after five years' service, in accordance with the Act of June 23, 1874. Headquarters of the Army, A. G. O., Washington, D. C., August 11, 1890.

REED, WALTER, Captain and Assistant Surgeon. With the approval of the Acting Secretary of War, granted leave of absence for four months, to take effect about September 1, 1890. S. O. 192, par. 17, A. G. O., Washington, D. C., August 8, 1890.

MIDDLETON, JOSEPH V. D., Major and Surgeon; EWEN, CLARENCE, Major and Surgeon; and HOPKINS, WILLIAM E., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, will assemble at the United States Military Academy, West Point, N. Y., at 11 A.M., August 27, 1890, or as soon thereafter as practicable, as a board of medical officers, to examine into the physical qualifications of the candidates for admission to the Academy. S. O. 192, par. 1, A. G. O., Washington, D. C., August 18, 1890.

MASON, CHARLES F., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War, relieved from further temporary duty at Fort Logan, Col., and will report for duty at his proper station (Fort Washakie, Wyo. Terr.). S. O. 191, par. 3, A. G. O., Washington, D. C., August 16, 1890.

MOORE, JOHN, Brigadier-General and Surgeon-General. By direction of the Acting Secretary of War, retirement from active service this date by operation of law, under the provisions of the Act of Congress approved June 30, 1882, is announced. General Moore will repair to his home, Bloomington, Ind. S. O., 191, par. 2, A. G. O., Washington, D. C., August 16, 1890.

MCCREERY, GEORGE, Captain and Assistant Surgeon. The leave of absence for seven days granted by orders No. 84, Fort Warren, Mass., August 13, 1890, is hereby extended fifteen days. S. O. 193, Headquarters Division of the Atlantic, Governor's Island, New York City, August 15, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 23, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	37	12
Scarlet fever	12	4
Cerebro-spinal meningitis	1	2
Measles	81	12
Diphtheria	39	14
Small-pox	0	0
Varicella	0	0
Pertussis	5	16

Lead-water and Cantharides.—Dr. Pied writes, in the *Gazette Médicale de Nantes*, that it is impossible to raise a blister by applications of Spanish fly to parts which have been bathed in lead-water. The reason of this is probably that a chemical reaction occurs, an insoluble cantharidate of lead being formed. When it is desired to blister a part upon which lead lotion has been used, it is necessary to scrub the skin thoroughly with soap and water, or to apply first some other substance, such as tincture of iodine, which will combine with all the oxide of lead present upon the surface.

The Use of Buttermilk in Vomiting.—Dr. Stanley M. Ward writes in the *Therapeutic Gazette* that he has found fresh buttermilk very serviceable in relieving vomiting of various forms, even at times the vomiting of pregnancy. The remedy is administered ice cold, in doses of about half a teaspoonful repeated every fifteen or twenty minutes. In the case of children with cholera infantum he has often succeeded in quieting the stomach by interdicting everything else and using a few drops of fresh ice-cold buttermilk at intervals varying in length according to the severity of the case.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 10.
Whole No. 1035.

NEW YORK, SEPTEMBER 6, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE TREATMENT OF PERTUSSIS BY BROMOFORM.

BY LOUIS FISCHER, M.D.,

ATTENDING PHYSICIAN TO THE CHILDREN'S DEPARTMENT OF THE GERMAN POLIKLINIK, NEW YORK.

BROMOFORM, $CHBr_3$, is a colorless liquid, boiling at 151° C., and solidifying at 2.5° C. Its specific gravity is 2.83 at 0° C. It is produced by the action of bromine upon alcohol in the presence of an alkali. In practice milk of lime is saturated with bromine, alcohol added, and the mixture distilled. In 1849 Nunneley and Schuchard called attention to bromoform as a possible anæsthetic, and in 1869 Rabuteau[1] brought the drug forward as a new anæsthetic.

Given to the lower animals by inhalation or hypodermic injection bromoform produces rapid narcosis, in which, according to the researches of Von Horoch,[2] the breathing is not noticeably lessened and the pulse remains full, regular, and strong. Although the blood-pressure is distinctly reduced, the heart is said not to suffer from the influence of the drug, and the peripheral vagi are not affected. Further, as powerful irritation of a sensory nerve has no influence upon the blood-pressure, it is probable that the fall is the result of vaso-motor paralysis, which is confirmed by the rapid sinking of the temperature.

The excitability of the cerebral psycho-motor centres and the general reflexes are entirely destroyed. Von Horoch has used the bromoform as an anæsthetic in several cases in man. The most marked symptom was excessive cyanosis of the face. The urine passed after recovery contained bromine.

More recently Dr. Stepp, of Nuremberg, applied bromoform successfully in the treatment of whooping-cough, and still more recently Professor Senator, through his assistant, Dr. Loewenthal, of Berlin, published an article in the *Berliner klinische Wochenschrift*,[3] heartily endorsing Dr. Stepp's treatment and recommending its further use, promising to again publish his results.

He noticed in some cases a decided benefit as early as the second day of treatment, in others on the third or fourth day, depending on the severity of the case.

Vomiting disappeared in the first week of the bromoform treatment. Bronchitis, complicating tussis convulsiva, seemed to be benefited also during the course of the treatment. In from two to four weeks children were usually discharged cured. Appetite also was better during the course of treatment. Children with previous morbilli, also delicate ones, experienced equally beneficial results. Some cases had the treatment interrupted by a complication setting in, *e.g.*, morbilli, pneumonia, or varicella. Relapses occurred where bromoform was not administered long enough; in some cases sleepiness was observed during the course of treatment. In a case where a toxic dose of $CHBr_3$ was given, the following symptoms were noted: Contracted, pin-point pupils; small, compressible pulse; pale countenance; cornea not reacting; on auscultation long deep inspiration; hardly any expiration was noticed; the heart-sounds were scarcely perceptible. The child reacted immediately on giving a hypodermic injection of sulphuric ether.

[1] Gaz. Hebdom. de Méd. [2] Wiener Mediz. Jahrbuch, 1883. [3] June 9, 1890.

The following cases will illustrate the manner in which I have applied bromoform, and show the results:

CASE I.—R. G——, two years of age. Has had pertussis fifteen days; daily average ten to eighteen attacks of coughing. Treatment commenced with two drops three times a day after meals. After giving twenty drops child had only two or three attacks of coughing in twelve hours. In this case the child received in all forty drops, and has not coughed since. Discharged cured twelve days after commencement of treatment.

CASE II.—C. S——, three and a half years of age. Has had pertussis six days; has violent attacks at night, also had epistaxis twice. Treatment commenced with two drops three times a day. After three days I increased it one drop, giving three drops three times a day. On the fifth day of treatment child coughed once in twelve hours; cough ceased entirely on the ninth day of treatment.

CASE III.—V. S——, aged fourteen months; in same family as Case II. Began to cough a few days after the above case, probably through infection. At the time of commencement of treatment it had fifteen paroxysms in twelve hours. On the fourth day of treatment, after receiving in all only eight drops, the child coughed but three times in twenty-four hours—once during the day, twice during the night, and each time mildly. The child was discharged, cured, on the sixteenth day after administering bromoform.

CASE IV.—F. E——, aged eight months. Has coughed twelve days; has just recovered from an attack of rötheln (German measles). At the beginning of treatment it had fourteen attacks of coughing in six hours; had six attacks of vomiting in two days. Treatment commenced with two drops three times a day. After the third day I began with three drops three times a day. Cough entirely ceased on eighth day of treatment.

CASE V.—A. S——, aged three years and four months. Cough commenced about two weeks before I saw him. Now has fifteen attacks in twelve hours, also has epistaxis. Considerable vomiting; bowels good, appetite poor, sleep disturbed. Child is considerably emaciated since beginning of cough. Treatment commenced with two drops four times a day, before eating and before retiring at night. Vomiting stopped on the third day of treatment, after the child had received in all fourteen drops of bromoform. Continued treatment for fifteen days, and discharged child, cured, on the sixteenth day.

In this case I lessened the quantity of bromoform, giving but two drops morning and evening the last six days.

CASE VI.—B. E——, aged two and a half years. Has had cough six days, contracted from its younger sister. Began with four to five mild attacks of cough. At beginning of treatment the child had seven violent spells in eleven hours. Treatment commenced with two drops three times a day, and continued until the fourth day; the cough almost ceased on the fifth day of treatment. I stopped treatment owing to complications of morbilli and bronchitis, which at time of writing I am still attending.

CASE VII.—D. S——, aged fourteen months. Had had cough for three weeks when I first saw him. He coughed six times in one hour, and had not slept in six or seven nights owing to continued cough. This child had been under treatment for about ten days before I saw it, had received one-half gramme of chloral for the insomnia, and had also received inhalations of ether, which merely lessened the severity of each attack. The treatment commenced with two drops three times a day, and con-

tinued so until the third day. I then increased the dose to three drops three times a day for seven days, after which the patient coughed but twice in twenty-four hours, both times at night and very mildly. I stopped all medication but bromoform, and after the second night of treatment this child slept six hours continuously; it was then nursed, coughed and vomited slightly (probably from lying on its stomach) and fell asleep, continuing so for two hours longer without bromoform. The treatment was continued for twenty days, after which the child was discharged cured.

CASE VIII.—C. K——, two years of age. Had had cough nine days; had seventeen attacks in eight hours. Treatment commenced with two drops three times a day, and was continued for eleven days. I again saw the child on the eighteenth day. It had not coughed in six days, nor had it received bromoform during that time. Child was discharged cured.

CASE IX.—W. S——, aged six months. Had coughed for eleven days. At the beginning of treatment it had fourteen attacks in twelve hours. Treatment commenced with two drops twice a day for three days, after which I gave the same dose three times a day I saw this child every second day. By the tenth day it had improved, was sleeping well, and had a good appetite (it was a bottle baby and was fed with barley-water). Child was last seen on nineteenth day and discharged cured. I again saw this child ten days later and found it in perfect health.

CASE X.—W. R——, aged twenty-two months. Has coughed between three and four weeks. The mother does not exactly remember when it first began. It had twelve attacks in ten hours. Appetite poor; child is emaciated; it had contracted the cough from a child in the same house. Commenced treatment with two drops three times a day. I increased it on the third day, giving three drops three times a day. This child took in all fifty drops and has not coughed since the treatment was stopped, twelve days ago.

CASE XI.—K. P——, three years of age. Had had cough about fourteen days when I first saw her. On the first day of treatment she coughed eighteen times in six hours; had always been well previously; is a very robust and a well-developed child. Treatment commenced with three drops three times a day. I continued and watched carefully until the fifth day, when my patient coughed four times in six hours. I then gave two drops three times a day for eighteen days, and discharged the patient cured on the nineteenth day after commencement of treatment.

CASE XII.—M. S——, six years of age. Had had a cough about a month at the time I first saw her. She had eight attacks in six hours, also had epistaxis four or five times since the beginning of the cough. Treatment commenced with three drops three times a day. I increased the dose after the fourth day, and gave four drops four times a day for twelve days. Epistaxis and vomiting were stopped after the third day of treatment. The child was cured after eighteen days of treatment.

CASE XIII.—B. S——, aged three years and two months; a brother of Case XII. Contracted pertussis about a week after the above case, through infection probably, and continued until the fifteenth day, after which I saw him. Treatment commenced by giving two drops three times a day. This child seemed better until the fifth day of treatment, when he contracted a violent attack of gastro-enteritis catarrhalis and died.

CASE XIV.—K. G——, aged eleven and a half months. Had had cough a little over two weeks. When I first saw the child it was having fifteen attacks in nine hours, and had also had epistaxis once. Expectoration very glairy and tinged with blood. Commenced treatment with two drops three times a day, which had no effect until I increased the dose to three drops four times a day. On the sixth day of treatment I noticed a slight improvement, and on the ninth day of treatment the child coughed but four times in twenty-four hours. On the eleventh day of treatment child had not coughed once in twenty-four hours; the appetite had improved, and it slept well. On the fifteenth day of treatment I discontinued the bromoform. I saw the child on the twenty-second day, found it had not coughed in one week, and discharged it cured.

CASE XV.—Mary K——, aged thirteen months. Had had cough ten days when I first saw her. On the first day of treatment the child had eighteen attacks of cough in twelve hours. Commenced treatment with two drops three times a day. I continued it five days, the mother then reported that the child had coughed but three times since the day before, or for about eighteen hours. I discontinued treatment on the sixth day, owing to an attack of enteritis following a very hot day, and after giving the child some tannate of quinine for two days, the enteritis subsided. I again administered two drops three times a day, as before this complication, and although I had stopped the bromoform for two days, the cough was not much worse. I continued treatment for twenty-five days, and discharged the child cured.

CASE XVI.—A. E——, aged four and a half years. Had had a cough for five weeks when I saw him. He also had pertussis three years ago, and at that time it lasted about sixteen weeks. He still has a hernia dating from the last attack. Was infected the second time from a neighbor's child; the cough has now existed eleven days. He now coughs seventeen times in eight hours. Vomiting has occurred twice in twenty-seven hours. His general condition is poor; he is anæmic, emaciated, but has no fever. Commenced treatment with two drops four times a day. He slept almost a whole night after the fourth dose, or after having taken eight drops; after the eighth dose, or after the sixteenth drop of bromoform, the child slept soundly during the entire night. I continued treatment until the eighteenth day, when I stopped the bromoform for one week, as the child was very weak. On the twenty-fifth day I put the child on tinct. ferri acet. æth., giving twenty drops three times a day for its anæmia. I have watched this case for two weeks, and have seen no return of the cough.

The above cases will answer to illustrate the different conditions of children attended; patients of all kinds were taken at random, although most cases were seen in the Children's Department of the German Poliklinik; several cases were also seen in the New York Polyclinic.

Most cases that were treated lived in tenements, in badly ventilated apartments, and were, as a rule, poorly nourished subjects, as are usually most dispensary patients. Several cases with the best hygienic surroundings possible, with excellent nursing, the best of food, and strict sanitary regulations were also attended, and I could notice no more benefit than I did in the ordinary class living in tenements. I do not pretend to say, however, that, given the best hygienic surroundings, the best of care, proper dieting, etc., such cases might not, in the long run, be much easier treated, although in my present observation, covering in all fifty-one cases, I noticed no shortening of the disease where better food and air were added.

In all my cases I made it a rule to urge the mothers or the nurses to count the number of attacks of coughing in a given time, say six, or usually twelve hours, as only by knowing exactly how many times a child coughed could the treatment be regulated. I also had the number of severe and the number of mild attacks counted.

In giving bromoform after eating, I refer, in cases of infants, to giving it after nursing; in my cases it made no particular difference whether it was given shortly after feeding or an hour after feeding.

In several cases I gave bromoform before meals, and have noticed no bad effects from the same, although giving it after feeding was preferable.

Baginsky,[1] after going into detail about the etiology of tussis convulsiva, sums up by saying that it is an infectious catarrh, caused probably by a micro-organism, which has not as yet been found. There is no question, however,

[1] Lehrbuch der Kinderkrankheiten.

as to the infectious nature of whooping-cough, and children all through the treatment should be isolated from healthy ones as thoroughly as possible. I have in all used bromoform in fifty-one cases, and still have several under observation; and there is no question but that it is the best known remedy when properly applied. Owing to its discoloration and extreme volatility, I have administered it from dark bottles, or bottles protected from the light, and very well stoppered. If the bromoform turns brown, then it contains free bromine and should not be administered.

The doses required were the following: For children under and up to one year of age, two to three drops three times a day; children from two to four years of age, three to four drops three or four times a day, depending on the severity of the case; children until eight years of age, four to six drops three or four times a day.

The doses were usually increased on the third day, sometimes after the fourth day of treatment, and in very severe cases on the second day of treatment, by gradually adding one drop to the usual dose. The quantity ordinarily required for a cure was from ten to fifteen grammes, although sometimes five grammes was enough; in severer cases twenty grammes, and even more, was required. Owing to its extreme volatility, I could not in most cases exactly determine just how much bromoform had been used. The time required for a cure was variable; in some cases ten days of treatment was enough to effect a cure, others required almost four weeks. About seventy-five per cent. could be discharged cured between two and three weeks after steady treatment, where no other complications existed.

Bromoform should be given in a small teaspoonful of water. Owing to its weight it sinks to the bottom of the spoon, and great care must therefore be taken to see that the child swallows the bromoform, and that it does not remain in the spoon. I did not experience any difficulty in giving it to children, as bromoform has a pleasant taste and was very readily taken by such patients.

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CONTINUED FEVERS IN MALARIAL DISTRICTS.

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The burden of this paper will be to record those observations in reference to continued fevers in malarial districts as have come to the writer with such uniform invariableness during the last decade as to have forced themselves upon his mind as facts in medical history. The points to be mentioned and discussed are:

1. Enteric fever runs a milder, though not shorter, course in paludal than in mountainous and unmiasmatic sections, and the probable reason for this fact.

2. The continued fevers observed in malarial regions are bona fide enteric, and not malarial, or so-called typho-malarial.

3. As a consequence of the truth of the second proposition the treatment by quinine, or its congeners, is not only futile but absolutely harmful.

4. The treatment which, in the writer's hands, has given the most satisfactory results.

There can be no doubt, upon a careful perusal of the history of abdominal fever for the last half of the century, as recorded in our classic texts, with parallel readings of recent publications on this subject, that in many sections of the country there has been a gradual decadence in the virulence of this disease and a less frequent observation of its malignant forms. In the language of Peter, "The excessive tympany, the baked tongue, the fuliginous nostril, which made up the usual history of these cases in the time of Chomal and Louis, have almost disappeared with the delirium and the incessant jactitation."

Dabney, in a paper upon the atypical forms of typhoid fever, reaches the conclusion that, at least in many sections of this country, the symptoms which at a former time were thought to be characteristic of this disease and almost invariably observed are now much less frequently present. Especially and in a marked degree has this been found to be true in those regions where the plasmodium malariæ of Laveran is present and bears the power to rule.

Here, in these paludal sections, in the experience of this author, supported by the consensus of testimony of many of the most successful and observant practitioners in his vicinage with whom he has consulted on this point, those conditions and symptoms which we, taught by our texts, naturally look for in typhoid fever, are, as a rule, conspicuous by their absence.

The expected tympany is most always mild when present, and frequently is entirely absent throughout the entire duration of the fever. Iliac tenderness is often elicited only by deep and prolonged pressure, while epistaxis is the exception and not the rule. Constipation generally obtains instead of diarrhœa, and when the latter is present it is mild and quickly amenable to simple treatment. The lenticular and rose-colored papillæ are not usually found, or are but slightly marked, and the hyperthermic line is rarely excessive in its diurnal elevations. In short, all of the classic symptoms of enteric fever are so toned down and illy defined that, but for the sequelæ, the temperature history, and exclusion, the diagnosis would forever remain unsettled.

While other courses—improved methods of treatment, changes in the manner of living, advance in civilization, etc.—may have been mediate and ancillary, the general and essential cause for this decline in the virulence of abdominal fever lies, in the opinion of the writer, in the wider prevalence of miasmatic infection, and certainly this seems to be the case in those regions recognized as paludal in the full meaning of this term. It accords with our experience and observation that when the microbe of Laveran is rampant in the land the bacillus of Eberth is in abeyance, and just in proportion as the community is exempt from the former will it be preyed upon by the latter; until we are led to believe that to be infected with the malarial miasm renders the individual inhospitable to the typhoid germ, and to have been subject to attacks of paludism is a partial vaccination, as it were, against enteric fever, and renders the person less liable to contract the latter disease. Should this fever be contracted all the dreaded symptoms which usually attend upon its onset would be mitigated, as a rule, and the infected person would stand a better chance of a mild attack and ultimate recovery than if, all his life, he had made his home upon the highest and bluest and most salubrious hill of "Old Virginia."

From the meagre study of this subject by the profession the explanation of the preceding observation, of course, as yet remains problematical, but to the writer's mind it seems quite probable that, in a system which has been from year to year inured to pyrogenic bacteria, accustomed to free itself from the nocuous products of tissue break-down and microbic ptomaïnes, and habituated by repeated attacks of infective fever to resist its disastrous and potent exacerbations, with every composite cell of blood and muscle and nerve trained as veterans—here, in such a system, will be found conditions inimical to the full development and ravages of any kindred germ.

It is a well-observed and frequently recorded fact that an individual suffering from one zymotic affection is not liable to furnish a suitable habitat for another, and from these observed facts Hunter formulated the axiom: "Two specific constitutional diseases cannot exist in the same person." And while we do not accept this axiom as embodying a universal truth, still we believe there underlies it a great substratum of scientific fact. It is true that Dr. James Shaw, of Glasgow, observed, which is quite rare, a case of typhoid fever in a well-marked

tuberculous subject, yet the tuberculous advance was stayed by the onset of the typhoid symptoms, and thus Hunter's axiom was not refuted, but only modified to this extent, viz.: Two specific constitutional diseases cannot run their course *contemporaneously* in the same subject; and in the case of Dr. Shaw, narrated above, the enteric poison for one month suspended the action of the bacillus of Koch.

It is well to state in this connection, as bearing collaterally upon this point, that, so far as our observation and inquiry among our *confrères* extend, infectious fevers other than typhoid are rarer and milder during epidemics of paludal fever than at other times. Especially does this hold true in reference to diphtheria; it not having been the author's fortune to meet with a single case of this dreaded scourge during a quite active practice of over ten years, while there has been recorded in other and unmiasmatic sections frequent and almost decimative epidemics. Diphtheria in our climate is indeed a *rara avis*, when the physician well acquainted with its typical history is called upon to make the diagnosis.

In the second place, we believe the hybrid term, typho-malarial or malarial, as designating the fevers under discussion, is without warrant, and, as embodying a false pathology, is pernicious, since leading to an incorrect, futile, and harmful line of treatment. That the plasmodium malariæ may exist, possibly, in the same subject with the bacillus of Eberth we do not deny, since such has been proved recently through the microscopic examinations of Kingoun and others; but in such a case, and we believe the combination to be quite rare, the plasmodium is held in abeyance during the activity of the bacillus of enteric fever, perhaps again to assert itself in exacerbations of fever after the subsidence of the typhoid microbe, thus vindicating the truth of the axiom: Two specific constitutional diseases cannot run their course *contemporaneously* in the same person.

And while the presence of the two microbes at the same time in the same individual may be possible, still this fact does not give the reason or the necessity for the hybrid typho-malarial with any stronger force than in the case of many other affections into which malaria is interjected as a modifying and disturbing element.

That the "continued fevers in malarial districts" are true typhoid we believe, and for the following reasons:

1. The hyperthermic line marks that evening rise and morning fall which is observed in typhoid fever and is considered characteristic of it.

2. The duration of the pyrexia is what we naturally expect it to be in abdominal fever—lasting from fifteen to twenty-eight days.

3. It comes as an epidemic and at a time when intermittent and remittent fevers are remarkably absent. Many members of the same family are frequently consentaneously or consecutively affected.

4. Sometimes in a given epidemic there are observed cases with well-marked typical typhoid symptoms.

5. The sequelæ and accidents of enteric fever are frequently observed. The mildest cases are sometimes complicated by intestinal hemorrhage, and in one instance of a mild, almost walking case, we have seen perforation of the enterous ulcer from dietetic imprudence.

6. The effect from the exhibition of antimalarial treatment, as regards amelioration of symptoms or curtailment of the fever, is absolutely nil.

From these and other considerations we are convinced that the continued fevers lasting from two to four weeks in miasmatic regions are, as a rule, almost without exception, true enteric and not malarial, or so-called typho-malarial.

The obtaining among the profession of incorrect pathological ideas in this respect has led to the adoption on the part of many of nocent methods of treatment; and here comes the point and force of the whole discussion. We are willing to admit that, when called to a case of non-inflammatory and continued fever in paludal districts, it is impossible for some days, and without diagnostic treatment, to say positively what form of fever it is with which we have to deal—whether malarial or otherwise.

For these reasons, when called to a case of the above-described fever, before the history of the case has declared the nature of the pathogenic agent, we treat the pyrexia upon the assumption that it is of paludal origin. Give a dose of calomel to free the *prima via* from fecal matter and pythogenic germs, if perchance they be present, and to arouse to healthy action the emunctory apparatus. Then comes the crucial and diagnostic antiperiodic doses of some one of the salts of quinia for two or three days. If the plasmodia be present, in this agent we have the specific treatment, which, in the vast majority of cases, never fails to eliminate the wily germ.

If after the diagnostic and malaria-eliminative doses of quinine have been taken the fever still continue, the indications for this line of treatment have been fulfilled, and the further prosecution of it will result in harm to the patient, and frequently, we believe, will lead to his death.

The disposition of some medical men in malarial districts to give quinine for everything, first, last, and all the time, *coup ae coup*, whatever the diagnosis of the case under treatment may be, under the fallacious impression that, being in a miasmatic climate, the patient must of necessity, with his other troubles, "have a good deal of malaria in his system too," is fraught with the power of an endless harm to the fever-tortured and pain-racked subject. And right here we desire to raise our voice against the indiscriminate prescribing of this beneficent, but, if indiscreetly used, harmful drug. If we have suspicion, in any given case, that plasmodia be present, eliminate at once the plasmodia and the suspicion by the exhibition of a few judicious doses of the cinchona alkaloids, and then let this line of treatment rest; for experience shows that, at least for seven days, your patient will enjoy immunity from the ubiquitous and malevolent pest of Laveran.

The treatment by quinine of these continued fevers, under the fallacious impression that the primal cause is, in great part, the malarial germ, is without a sound basis either in the theoretical consideration of the subject or in observant clinical experience.

Quinine undoubtedly is a boon to the human race, nor would we pluck one leaf from its justly merited chaplet of praise; but it must never cease to be remembered that instrumentalities that are potent for good, if injudiciously used are equally powerful for harm; and this agent, we feel well assured, has been much and sadly abused, especially in the class of fevers under discussion. Quinine is not a suitable agent with which to combat the hyperpyrexia of long-continued fevers of any nature, and certainly this is true in those cases of fever where there is not only a great breakdown of the body tissues and an overloading of the body fluids with the *débris* of disintegrated albuminoids, but an added intoxication from the specific ptomaïne of the pythogenic agent as well.

Quinine in large doses, or even in lesser doses long continued, impairs the digestive power by direct irritation of the gastric mucous membrane, as well as by its mediate effect through the nervous system. It not only destroys the poor remnant of appetite which the patient may have, but renders the organ incapable of performing its digestive function and of retaining those medicaments which may be deemed essential. Given from day to day in 15, 20, and 30 grain daily amounts, as is frequently done in these fevers, it produces disturbances of hearing and severe headache, and by its constant irritation of the nervous system, encephalic and spinal, raises the already erethitic condition of these structures oftentimes into incontrollable jactitation and wild delirium. Jaccoud emphasizes the danger of the employment of this agent in typhoid fever, pointing out that among the different forms of delirium which may be observed in this fever there is one that it is most important to recognize and avoid, and

that is the therapeutic delirium frequently produced by this very drug. Continued for a long time in large daily amounts, quinine will bring about a positive dissolution of the red blood-corpuscle, a liberation of its pigment, and induce thereby a hematogenous jaundice—thus still further taxing the overburdened excretory organs. As ordinarily given—the sulphate—it is difficult of solution, and in passing from the system through the kidney in a state of unwilling solvability it irritates the delicate endothelium of the tubules into congestion, and possibly may light up a true nephritis, interfering in a disastrous degree with the kidneys secernant action at a time when the blood is surcharged with effete and toxical material and is groaning to be depurated.

What, then, should be the treatment of "continued fevers in malarial districts?" As in other self limited diseases for which we have no specific power of control that method of therapeusis is best which is simplest in its nature and is least perturbative to the sick individual. Many of these cases require no active medication, and with suitable diet and hygiene will progress to a fortunate conclusion.

When the temperature curve is only gently elevated in the evening from two to three degrees, as is frequently the case; when the mind remains elastic and clear, the bowels regular and not tympanitic, and the secretions and excretions are fairly well preserved, no medication is indicated, save, perhaps, a well-diluted mineral acid as a grateful draught to the stomach, an auxiliary to digestion, and a placeboic balm to the mind both of patient and friend. But when the symptoms become more distinctly typhoidal in type—when the fever mounts higher, the tongue becomes drier, the bowels somewhat tender and resonant, and the urine scanty and high-colored—then there are, in my opinion, indications to be met by suitable prescription of medicine. In the light of such objective symptoms, what, manifestly, from our knowledge of this fever, are the organic internal changes to be regulated and possibly hindered?

The microbe of Eberth has found a congenial home in the intestinal canal, and as a result of its rapid proliferation there is set up a dothinenteritis, and upon this inflamed, ulcerous, and absorptive region is deposited the excretory poison, the ptomaïne peculiar to this bacillus. Into the blood it goes with its fever-producing power and commits upon cell of blood and muscle and nerve a more or less extensive destruction.

The albuminoid tissue molecule by this pyrogenic agent is disrupted, and from such decomposition there are formed toxines, from which, if the system be not freed from hour to hour, there speedily results not only an accumulation of the specific poison of the fever, but an auto-intoxication as well.

We know of no means of destroying the germ upon its first lodgement in the intestinal tract, and thus prevent the sequential ulceration and absorption. Some have supposed this could be effected by antisepsis of this canal, working both *per orem* as well as with large enemata *per anum;* but the clinical outcome of such methods of treatment does not show that the ulcerative or absorptive evils have been avoided thereby.

If, then, these conditions of specific and auto-intoxication cannot be prevented, how can they best be limited in their production, how most speedily and effectively eliminated, and their effects upon the system best overcome?

The kidneys are the great depurators, and it is of primal importance that their functional integrity be preserved; for when they cease to any great extent to perform their important work the end is not far removed.

The remedy which we have to suggest, and which in our hands has proved itself to be of inestimable value, is no new one.

The oil of turpentine, first introduced to the profession in the treatment of this fever many years ago by Dr. George Wood, and recently again brought forward with insistence by Professor H. C. Wood, fills more of the indications of treatment in such cases than any other remedy with which we are acquainted. In small doses, begun when the symptoms of faulty excretion and intoxication are first evident, and continued from day to day, the oil of turpentine is a faithful regulator and restorer of excretory power.

As an antiseptic it occupies no mean place in the gradation of this class of remedies, and by this power, in its local effects upon the glands of Brunner and the patches of Peyer, it limits bacillary increase and persuades to the healing process the ulcerated gland. By this action it helps toward the mitigation of the attendant diarrhœa, and, by its hæmostatic power, tends to the prevention of intestinal hemorrhage. It acts mildly and soothingly upon the usually accompanying bronchial irritation, and in the tympany which may arise it is the treatment, in some form, recognized by all. It has a stimulative and tonic effect upon the cardiac muscular fibre, and upon the kidney, judiciously administered, it produces the happiest results.

The caution to be observed is not to give in too large doses, but to obtain just that mild and equable degree of stimulation as shall be sufficient to overcome the torpidity of action which always, to some extent, obtains in this fever. If given to the degree of producing congestion and strangury all good results will be lost and great harm will inevitably ensue. The dose for an adult which I generally prescribe is from five to eight minims in emulsion, to be taken every four hours. Thus:

℞. Olei terebinthinæ pur..... ʒ iij.
Olei gaultheriæ..... gtt. xv.
Pulv. acaciæ..... ʒ iij.
Sacch. alba..... ʒ ij.
Aquæ aromat.....q. s. ad ℥ iv.
M. Sig.: Teaspoonful, diluted, every four hours.

This prescription will bear the addition of lactopeptine if the digestion require it, and of bismuth subnitrate should diarrhœa supervene.

Opiates as a rule are detrimental in typhoid fever and should be reserved for times of great emergency, although we are well aware they are recommended by those high in authority—Flint and others—for diarrhœa, insomnia, etc. There is nothing surer in medicine than that opium checks the secretions and excretions, and especially is this true as regards its effect upon the kidney. To give a dose of opium at a time when the blood is loaded with eliminable poison, and the brain is not only irritated but perhaps lashed into a frenzy by its vellicating circulation, and when the depurative kidney is struggling under the excessive burden it is required to carry, is often the last straw which completes the prostration of this patient, but overworked, helper.

The only indications for opium are in the cases of diarrhœa uncontrollable by all other means, and in the accident of intestinal hemorrhage. The nervous manifestations and insomnia, when present, are best overcome by the bromides, hyoscyamus, chloral hydrate guarded, and the ancillary agencies of quietude and cold sponging.

The antipyretic treatment is rarely indicated in these fevers in malarial regions, since the temperature rarely mounts for any length of time above 103° F. If fever-reducing agents should be required, my preference is the sponge-bath or wet pack, as being less perturbative to the patient than the plunge-bath of Brand, with, perhaps, an occasional dose of some one of the lately discovered derivations of coal tar, acetanilide preferred.

As to diet, I am fully convinced that in the reaction from the old starvation theory to the newer dictum of Graves, "feed fevers," the pendulum has swung too far, and great injury frequently is done the fever patient, not only by improper feeding, but by overfeeding. I have heard doctors say, in giving directions as to diet to these patients, "Drink all the milk and soup you can." This advice causes the patient, who is not only thirsty, but anxious to carry out the injunctions of the attendant, frequently to drink down at a draught a tumblerful of

milk every hour or two. In such an event, after a few days, we gradually have an intestine filled with fermenting milk-curds, the blood overloaded with imperfectly metabolized proteids, and the digestive power, for the want of its recuperative rest, destroyed.

Let the quantity of fluid food, milk or otherwise (and it is best to err on the side of meagreness), be accurately designated, the time set for its ingestion positively stated, and the manner of taking it, slowly and in small sips, strenuously insisted upon. In ordinary cases a period of four hours should elapse between each exhibition of nourishment. This gives the stomach time to do its work and to recover its power, by a proper period of rest, before its functional activity is again required. Frequent but small draughts of cold water, acting both as a diuretic and a febrifuge, will add much to the comfort of the patient and contribute to the ultimate success of the treatment.

Alcoholic stimulation in most of these cases is never indicated, and, if at all, only in the latter days of the fever, or perhaps, at the beginning of convalescence. Given early it will result in no benefit, and possibly in much injury.

Many of the facts and conclusions set forth in this paper have been drawn from a recent list of eight cases which have within the last forty days come under my observation and treatment. Four of the cases are convalescent and the condition of the remainder is very satisfactory. As the teachings of these cases are but confirmatory of the propositions enunciated in the beginning, and as the methods of treatment agree with that outlined above in a general way, I will not call upon the patient reader to go with me through the tedium of a separate recitation of the phenomena observed in each case and the methods of treatment followed.

ELIZABETH CITY, N. C., July 26, 1890.

SUPPURATING ENDOTHELIOMA — MYOFIBROMA IN A CONDITION OF NECROBIOSIS — REMARKS ON THE TREATMENT OF THE PEDICLE, ETC.

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I FIRST saw endothelioma in the ovary in 1885. It was then pronounced to be "alveolar sarcoma." The patient was thirty-five years of age, had been a sufferer for fifteen years, having at times pain so severe that she could neither walk nor stand, and so sharp and lancinating that she frequently screamed with the agony. After the operation[1] her health greatly improved, she was relieved of the severe suffering, and was able to perform her ordinary duties. In February, 1890, she reported herself as doing the household work for a family of four persons.

Since 1885 I have seen a number of cases of endothelioma of the ovary; each one was characterized by pain directly at the seat of trouble and by certain other marked symptoms. The general health in all was so seriously affected, and there were such grave constitutional disturbances, that I many times queried, Is the growth malignant or semi-malignant? I have been the more impressed with this when I have watched its course, its rapid formation, the infinite number of coarse granules, the vast number of globular and polyhedral corpuscles, and how they infiltrate themselves into other tissues, destroying normal structure and changing everything to their own nature. Future investigation may yet prove this growth to be malignant; that in some instances, however, it has marked boundaries, and, in one at least, was capable of enucleation, would rather indicate its benign character.

When endothelioma exists without the complication of diseased tubes, and consequent peritonitis with pseudo-membranous adhesions, the operation for removing the diseased ovaries is attended with comparatively little shock; and after the removal of an endotheliomatous growth patients usually show a greatly improved condition of general health, are relieved of pain, gain flesh, have renewed strength, and are able to attend to their daily labors or pursue their various occupations; and in many instances have had, by the operation, years of health and useful activity added to their lives.[1]

Endothelioma in the ovary is invariably found accompanied with anomalous menstrual bodies, or gyroma, and is frequently an outgrowth from the same, though gyroma exists in many instances where there is not a trace of endothelioma. Both result from inflammation, and both produce inflammation. Endothelioma finally develops into a profuse new formation of red blood-corpuscles, and blood-vessels, mainly of capillary and venous nature, and at last terminating in what is known as hæmatoma of the ovary; while anomalous menstrual bodies, or gyroma, are the result of certain pathological changes in the follicular membrane, the normal remains of menstruation. This membrane is a delicate, ribbon-like formation, structureless, highly refractive, thrown into graceful folds, and buried deep in the ovarian stroma, and has thus been found unchanged in the ovaries of women over seventy years of age. When subject to pathological action, it first becomes inflamed, broadens, the inflammatory corpuscles begin to elongate, gradually changing to fibrous connective tissue, and meanwhile in the membrane is deposited a waxy, colloid basis substance. As the morbid process advances the convolutions increase in number, till, in some instances, large territories of the ovaries are transformed into hard convoluted masses; and with high powers of the microscope the neighboring tissues are found in a process of change to the same formation. Apparently there is no limit to the formation. Such masses are usually found in a state of intense inflammation, or becoming waxy, or changing into endothelioma, or all these three conditions coexisting. In some instances the gyroma forms firm irregular walls inclosing a varying amount of newly formed myxomatous tissue, and this newly formed myxomatous tissue is frequently found in a state of acute or subacute inflammation, and containing many newly formed or forming blood-vessels. Such great and grave pathological changes must necessarily be accompanied by pain, and by more or less constitutional disturbances.

In an article published in the New York *Medical Journal*, May 9 and 17, 1890, I stated that I first recognized anomalous menstrual bodies, or gyroma, in a case I operated on in October, 1888, and presented the specimen to the New York Pathological Society, December 12th of the same year; but I find I marked this growth, and attempted to describe it, in diseased ovaries which I presented to the same society, September, 1887. I then gave the microscopical examination as "cavernous angioma," with "enormous formations of fibrous connective tissue," "structureless membrane changed to fibrous connective tissue and waxy." "Large irregular cysts filled with fibrous connective tissue, and which might be called fibromata."

These were anomalous menstrual bodies, and the patient was a typical illustration of the two diseases, endothelioma and gyroma. She had the usual well-defined symptoms—pain, pallor, emaciation, and hysteria; gave the appearance of one far gone in phthisis, complained of such severe and continued suffering in the pelvis that she again and again begged to have an operation performed for her, and was impatient of any delay. We delayed from time to time, because of her extreme feebleness and the poor prospects of her surviving the operation; and if she did survive, we could not at that time see how the

[1] The uterine appendages were removed June 25, 1885. I was kindly assisted by Professor Gill Wylie and Dr. C. N. D. Jones. Samuel King, M.D., attended to the ether.

[1] Many have also stated, as a result of the operation, that the marital relations were no longer painful or unendurable, but the contrary.

removal of the diseased ovaries would so radically benefit her general condition or restore to health one so seriously affected. Finally, as the patient continued to grow worse, and her symptoms were becoming more and more unfavorable, we decided to perform the operation, in hopes of relieving her, in some respects, at least, and hoping that relief of other and more grave symptoms might follow.

The results following the operation were beyond our expectations. The patient was relieved of pain, gained in flesh and strength, looked well, all appearance of phthisis disappeared, and she was soon able to do the household work and washing for a large family.[1]

Thus the endothelioma and gyroma had affected her whole system, producing serious and profound constitutional disturbances, and I believe her improvement was entirely due to their removal.

In the ovaries of this patient were large cysts filled with fluid; some sections of the ovaries showed that these cysts occupied three-fourths of the space or surface, thus much of the normal ovarian structure was thereby destroyed, while the remaining parts of the ovary, which were really only the rims and interstices around and between the cysts, were in a state of intense acute and subacute oöphoritis, and some portions of this inflamed structure had already degenerated into endotheliomatous and gyromatous formations. The blood-vessels were diseased, the walls of many were in a state of intense inflammation, others were in waxy degeneration. The ova showed profoundly diseased conditions; many were completely filled with inflammatory corpuscles, some were changing to fibrous connective tissue, many were waxy, so they, the ova, so far as any physiological function was concerned, were utterly destroyed. We believe the septic peritonitis developed at the last parturition not only produced the endothelioma and gyroma but also caused this diseased condition of the ova.

We find further in the ovaries of this patient a number of large lakes of ready-formed blood. This condition was necessarily attended with much possible danger, and rendered a delay in the operation extremely hazardous to the life of the patient. One instance is reported of a hæmatoma of the ovary bursting, blood escaping into the peritoneal cavity, causing a severe peritonitis—pulse 140, temperature 104° F.—and only a timely operation saved the patient's life. When a rupture once takes place in these fragile tissues, considering the large blood-vessels that may be opened, we see the great peril in which the patient must necessarily be placed.

The existence of endothelioma in the ovary also produces certain conditions in the surrounding tissue that may give rise to unexpected and serious difficulties in the operation. An engorged pampiniform plexus, or "varicose dilatation of the veins of the broad ligament," is no doubt a frequent result, and an accompaniment of an advanced condition of endothelioma or hæmatoma.[2] In this patient the pampiniform plexus was greatly engorged and the neighboring tissues were tender, and had a tendency to bleed, even the fundus uteri oozed blood at the slightest touch; the broad ligament tore like wet paper, tore even from the cornu of the uterus, and melted under the secured ligature so that the whole broad ligament was unfolded, countless vessels opened, pouring forth their life-current, and in a moment the pelvis was welling up full of blood. These bleeding-points were quickly secured, clots removed, the peritoneal cavity flushed out, and the patient made an excellent recovery, though it was somewhat delayed on account of the continued oozing preventing the abdominal wound from healing readily and causing the consequent formation of much cicatricial tissue; still she was able to leave the hospital in a few weeks, commenced her heavy household labors, and her husband said he had not seen her so well for fifteen years.[1]

Such peculiar conditions of the tissues in the pelvis may explain the serious hemorrhages that in some instances occur, not only unexpected by the surgeons, but apparently without cause. While we do not fully understand the nature of endothelioma, or its probable effects upon the ovaries and surrounding structures, yet we must recognize that it is a serious disease: First, on account of the local suffering; second, the general ill health and indisposition it produces; third, the dangerous condition of angioma or hæmatoma; fourth, the possible hemorrhages, which may be immediately fatal or followed by a fatal peritonitis; fifth, the possibility of its suppurating. Of this last condition I will speak, and it is illustrated by the following remarkable case, and is, I believe, the first instance yet recorded of an endothelioma being found in a state of suppuration. This patient first called to see me in company with her husband, on August 11, 1889; she was thirty-three years of age, married nine years, one child eight years of age; she was very anæmic, somewhat emaciated, lips white, mouth dry, great thirst, pulse 115, temperature 102½° F.; complained of constant and severe distress on each side of the pelvis, sharp cutting pains in the bladder, could not lie on the right side or turn from one side to another without great pain, hurt her to walk, and when she attempted it she reeled and tottered from absolute weakness. She often said: "I feel so bad, so bad, I cannot live as I am."[2]

Upon examination I found a myoma occupying the entire structure of the uterus, and the uterus, thus enlarged, was pushed down in the lower part of the pelvis, so that the os protruded beyond the vulva, the whole mass thus making pressure upon the bladder and rectum. I diagnosed further that the patient had endothelioma of the ovaries and pyosalpingitis of the tubes. The high temperature was supposed to result from the local peritonitis excited by the latter. Here I wish to emphasize, as I have elsewhere[3] suggested from studying the histology of these morbid conditions, that it was the disease of the uterine appendages that caused the growth of the tumor. Some German writers maintain[4] that a fibroid tumor or a myoma develops in consequence of sterility, or the inactivity of the sexual organs; others, as Winkel and Röhrig, say the sterility is in consequence of the tumor. Neither of these propositions can be sustained by facts; but that disease of the uterine appendages causes sterility is self-evident, and also that these diseases do so disturb the nutrition of the uterus as in many instances to cause the development of myoma is almost equally self-evident;

[1] After a patient is thus relieved in consequence of an operation and is in comparative good health, we naturally say, "What a pity her ovaries are gone." So it is, the saddest pity. We may even demand why this operation was performed, and the woman thus prevented from having more children. We forget that her former conditions were such that it was not a question of children or ovaries, but of saving life and trying against hope to give the sick woman a degree of health and comfort. We forget, too, that the disease that produces such distress produces also a profound sterility. A gangrenous finger is removed, and life is thereby saved; still we may well regret the loss of the finger. Dr. H. Byford, of Chicago, says: "The cry that we are depriving woman of her God-given organs is nonsensical. I have not yet learned that a woman is unsexed by the change of life, whether naturally or artificially; and after the sexual system of a woman is modified by the change of life, or removal of the ovaries, she is in as good or better condition than before to live out her days" (Chicago Obstetrical Society).

[2] Dr. H. C. Coe well expresses the general principle when he says: "The same cause may lead to both the ovarian disease and the dilatation of the veins" (American Journal of Obstetrics, p. 511, May, 1889). Dr. R. Nilsen says: "The destruction of veins will disappear, together with the symptoms, upon the removal of the diseased uterine appendages" (Ibid., p. 518, May, 1889).

[1] The doctors watched over this patient and cared for her with unceasing vigilance. Probably for this service and for saving the patient's life, she, the patient, may one day be persuaded to bring suit against the doctors for heavy damages, as one patient who was relieved by a similar operation in the Woman's Hospital of Brooklyn, who had equal care and attention from the doctors and the nurses, sued the doctors for many thousand dollars; though the modest wish of this patient, as she herself expressed it, was "to get a hundred dollars to buy a store."

[2] This patient was advised to consult me by a gentleman whose wife was a patient in the Woman's Hospital of Brooklyn in 1887. In her case the ovary was enlarged by an endothelioma and was bound in a mass of pseudo-membranes to the pelvic floor. Her conditions were further seriously complicated by a severe form of interstitial pyosalpingitis. The uterine appendages were removed; the patient made a rapid recovery, and is now in the enjoyment of excellent health.

[3] New York Medical Journal, August 25 and September 1, 1888.

[4] Handbuch der Frauenkrankheiten, vol. ii.

and as corroborating the same point is the fact that the timely removal of the uterine appendages will not only stop the growth of the myoma, but will in many instances cause its entire disappearance.

Soon after the birth of the child this patient had salpingitis, accompanied by more or less oöphoritis. If the diseased uterine appendages had at that time been removed there would have been no tumor, and the long years of suffering might have been avoided. Still, if this operation had then been performed we would doubtless have heard again about "mutilating women" and "rendering them sterile;" yet we notice that leaving the diseased uterine appendages did not enable her to have children, did not make her a more perfect woman, or render her less mutilated; but did make her a miserable invalid, did incapacitate her for every useful employment, and did, in time, produce conditions that were dangerous, and finally fatal.

At the next menstruation this patient hemorrhaged seventeen days, and during the whole period suffered with extreme pain and prostration, and became more and more exhausted. The pulse and temperature had previously a little improved, still in essential respects the patient was steadily losing ground, and in every way the prognosis of her case was most unfavorable. We did not think she had strength, or that it would be possible for her to pass safely through another period; it was equally evident she could not live without an operation; with one there might be a small chance. Still I hesitated to admit so hopeless a case into the hospital, submitted the question to the trustees, who considered the matter, and decided that as the object of the hospital was to save life, and help suffering women, therefore they could see no reason why this sick woman should not be admitted, and an effort made to save her. She entered September 5, 1889; temperature, 101° F., pulse, over 100; had every care, rest, quiet, good nourishment, and constitutional treatment; still her temperature continued to range from 99½° to 101½° F. in the morning, and 100° to 102° F. in the evening. This regular rise and fall of temperature showed some septic or hectic condition which was still attributed by the attending physicians to the local peritonitis. Dr. H. C. Coe and Professor William Polk both very kindly examined the patient, and both were of the opinion that if the tumor were allowed to remain it would be a serious peril to the patient. Dr. Coe wrote me, October 18th: "The uterine fibroid is firmly impacted in the pelvic cavity, so as to cause serious pressure upon the neck of the bladder. If the tumor continues to grow and to occupy its present position, from which it seems impossible to dislodge it, the patient will certainly be placed in great peril from retention of urine and its consequences, added to the serious danger of continued hemorrhage. I do not see how any operation except complete removal of the mass can benefit her, and I regard such an operation as justifiable."

On the 19th the patient was put on milk diet, given saline cathartics, etc., and on the 21st the operation was performed. Every preparation had been made with the most sedulous care, and every precaution taken to avoid all possible sources of sepsis. The patient was in the best condition possible for her to be. Dr. Frey administered the ether, Dr. H. C. Coe and Dr. C. N. D. Jones assisted in the operation. I made an incision of four and a half inches in the abdominal walls, found the uterus wedged into the pelvis and bound in posteriorly by firm adhesions. Both ovaries were very much enlarged, evidently with some abscess formation, and both, with their corresponding tubes, were removed. Though handled with the greatest care, the right one ruptured, discharging a considerable amount of pus, which was caught on sponges. The adhesions about the tumor were separated and the tumor thus rendered movable. It had been before decided to do entire hysterectomy, and this procedure still seemed to be the most feasible; so, after freeing the tumor, the abdominal wound temporarily closed, I commenced at once to separate the vaginal attachments. Here enormous difficulties were encountered, colpo-hysterectomy was as nothing to it; the elongated cervix was adherent throughout its whole extent by firm fibrous attachments. While I was separating these attachments and freeing the cervix, Dr. C. N. D. Jones and Dr. H. C. Coe greatly assisted me. The broad ligaments were clamped from below, the entire mass was removed through the abdominal wound, and the abdomen was temporarily packed with gauze. The operation was completed in about forty minutes. At 2.30 P.M., pulse 114. At 5.30 P.M. the patient asked for milk, said she was hungry. At 6 P.M., temperature 99½° F. At 9 P.M., pulse 119. During the afternoon and evening she slept at intervals, and occasionally took brandy-and-water. She had no nausea.

The indications now were that the patient would make a good recovery; she took nourishment during the day, and slept quietly; but in the evening there began to be indications of shock and profound septicæmia. On Wednesday, the third day, there was scarce a teaspoonful of discharge in the drainage-tube, and this had the appearance of dirty, offensive pus. I sent a portion of this to Dr. C. Heitzman for microscopical examination. He replied that "there was an old peritoneal abscess, some of the pus-corpuscles were already in a state of fatty degeneration." This abscess was probably on the right side near the liver, and its existence would explain many of the patient's previous symptoms. It probably ruptured on the second day, discharging its contents into the peritoneal cavity, and thus fully saturating the system with its poison, which circumstance at once destroyed all possible chance of the patient's recovery. She continued to grow worse till 9 P.M., Thursday. After death the discharges from rectum and vagina were extremely offensive. No autopsy was made.

This patient should have been operated on years before. The whole difficulty in this case, and the cause of finally fatal results, was in this delay, and delay will be found the main cause of the difficulty in every serious or fatal case. As Joseph Price says: "The safety is in early operating." Lawson Tait wrote me in 1886: "The whole gist of modern abdominal surgery lies in earnest and continuous plea for early interference," and he says in his last work on diseases of women and abdominal surgery: "The whole of my experience in every department of abdominal surgery is one continuous outcry against delay."

Microscopical Examination of the Ovaries.—The left ovary was the seat of the most remarkable change, suppurating endothelioma. Portions of the ovary not occupied by the endothelioma were in a state of intense acute or subacute oöphoritis. There were anomalous menstrual bodies which were also in a state of intense inflammation, changing into endothelioma. The ova were diseased, many of them broken up into medullary corpuscles.

By this suppuration of the endothelioma I was enabled to study all the tissue changes leading to the formation of pus from a previous endothelial tissue. It is a pathological process in an already pathological tissue.

The tissue changes are as follows: The endothelia in portions not yet affected by the inflammation are coarsely granular, and many of the granules exhibit a yellowish lustre characteristic of hæmatoblasts. Between the endothelia, or groups thereof, are blood-vessels holding red blood-corpuscles. The first change noticeable in the endothelia is their becoming more coarsely granular, and a conspicuous augmentation of the hæmatoblasts. Through coalescence of the granules yellow and highly refracting lumps are discernible. Next, the large lumps of the previous endothelia split up into a number of smaller ones, which still remain interconnected by means of delicate offshoots of lining matter. From these lumps, greatly varying in size, medullary or inflammatory corpuscles originate, and these, by progressing from the solid or vac-

uoled condition of lining matter into the reticulated state of protoplasm, become nucleated protoplasmic bodies. After a tearing asunder of their bodies isolated protoplasmic bodies arise, which are now true pus-corpuscles. Another mode of change from endothelia into pus-

FIG. 1.—Suppurating Endothelioma of the Ovary. (× 600.) E, E, Coarsely granular endothelia; C, blood-vessel with marked adventitial coat; O, obliterated vessel between endothelia; L, vacuoled lumps from previous endothelia; G, groups of medullary corpuscles sprung from endothelia; S, endothelia split up into medullary corpuscles; P, P, pus-corpuscles.

corpuscles is this: Two or several endothelia coalesce by a liquefaction of the intervening cement substance into granular lumps of protoplasm, which directly split up, first into inflammatory, and then into pus-corpuscles. The blood-vessels between the endothelia, soon after the inflammatory changes have started, become transformed into solid tracts of fibrous connective tissue, which likewise shares in the production of inflammatory, and afterward pus-corpuscles.

Cohnheim claims that in the process of suppuration all the inflammatory and pus-corpuscles are nothing but emigrated colorless blood-corpuscles, the tissue elements themselves taking no part whatever in the production of such corpuscles. In these specimens I could see, step by step, the transformation of the elements of endothelioma into pus-corpuscles. This proved the fallacy of Cohnheim's theory and strongly supports the assertions of S. Stricker and C. Heitzman to the effect that the constituent elements of living tissues themselves become transformed first into inflammatory and at last into pus-corpuscles.

Thus I consider pus a disintegrated tissue, whether this tissue is normal or pathological.

The right ovary, which had ruptured, was the seat of a large abscess. The tissue bordering this abscess and for some distance was in a state of intense acute oöphoritis. The stroma of the whole ovary showed long-existing disease and consequent structural changes.

In the midst of the acute and subacute oöphoritis there were anomalous menstrual bodies, also in a state of intense acute and subacute inflammation, while some were waxy or changing into endothelioma. There were some small cysts with intensely inflamed walls. The walls of many of the blood-vessels were waxy, some breaking down into inflammatory corpuscles. The endothelia of the arteries were coarsely granular, and had become detached, as is usually seen in arteries situated in inflamed tissue. Many of the arteries were in a choked condition. The lymph vessels were waxy. The ova of this ovary also showed a diseased condition, some undergoing a retrograde progress, the yolk and maculæ germativa were broken up into medullary corpuscles, and much of the ovarian stroma around them was in waxy degeneration.

There was interstitial salpingitis of the tubes, some muscles of the walls were completely destroyed by the inflammatory action. Also the mucosa of the tubes was intensely inflamed, and there was peripheral salpingitis.

The tumor of the uterus, after removal, weighed six pounds, and had a longitudinal diameter of five and one-half inches. The cervical portion attached to it was about three inches in length, but not enlarged. A transverse section through the tumor exhibited a central portion, two and one-half inches in length and one and one-half in breadth, composed of a soft, somewhat cauliflower like mass, in the immediate vicinity of which the firm and dense tissue of the tumor commenced. The latter showed a distinct cortical layer, conspicuous by a concentric stratification.

Anteriorly, in the lowest portion of the cortex, there was imbedded a nodule of an irregular striated structure, the size of an English walnut. The rest of the tumor exhibited irregular striations and stratifications. About an inch above the lower circumference of the tumor a curved slit-like cavity could be seen, parallel with the lower contour of the tumor, about two inches in length. This was the remnant of the uterine cavity. A probe introduced into the cervical canal would pass without difficulty into this slit. The enormously elongated cervical portion showed a transverse laceration of the cervix, and a noticeably elongated posterior lip.

Sections through any portion of this tumor proved, under the microscope, to be a myofibroma, composed mainly of smooth muscle-fibres, arranged in bundles, which interlace in all directions without regularity. The muscle-fibres are of an unusually large size and distinctly supplied with rod-like and granular nuclei. The latter were especially well defined in the transverse sections of the mus-

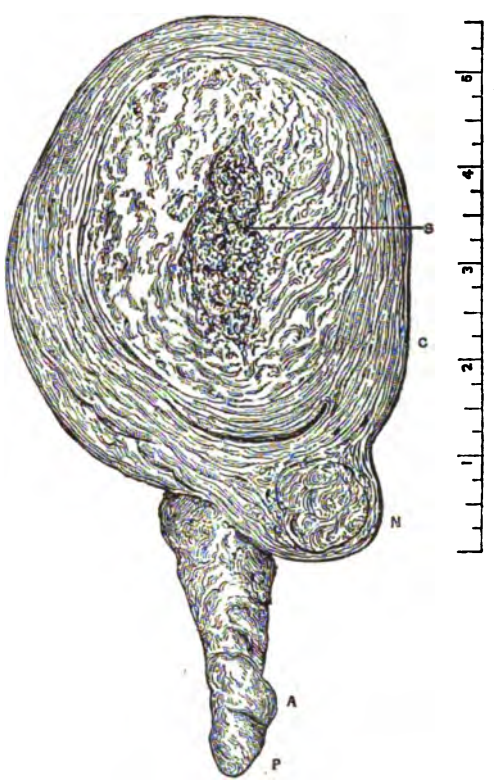

FIG. 2.—Myofibroma of Uterus. (One-half natural size.) C, Cortex of the tumor; N, nodule in the cortex; S, softened central portion; A, anterior lip of vaginal portion; P, posterior lip of vaginal portion.

cle-fibres. Between the single fibres, as well as groups of such fibres, a considerable amount of fibrous connective tissue was present, but less than of the smooth muscle-tissue. In longitudinal sections of the muscle-bundles it was impossible, as is usual in such tumors, to tell the

difference between muscle and connective tissue, whereas in transverse sections the difference could be easily seen.

One of the most notable features of this myofibroma was that in the lower and middle portions its tissue was freely mixed with myxomatous and myxofibrous tissue. The fields of this tissue greatly varied in size in different

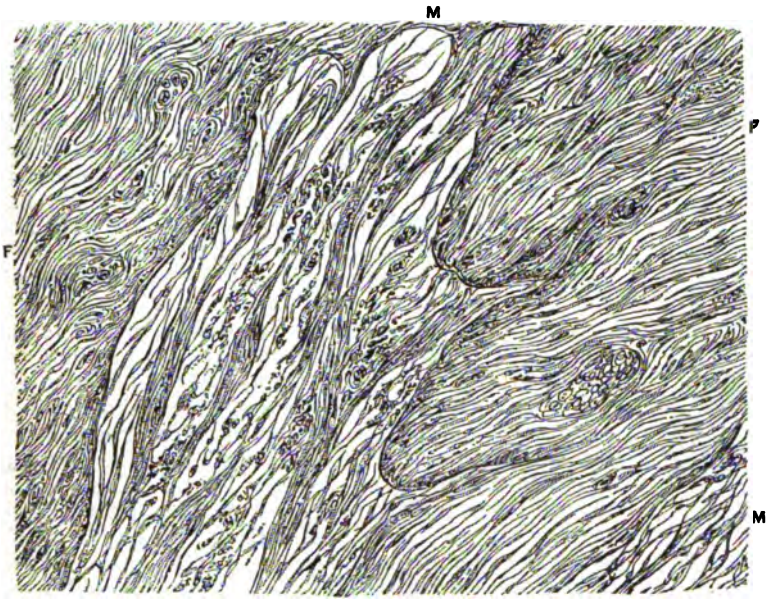

FIG. 3.—Myofibroma of the Uterus with Interspersed Myxomatous Fields. F, F, Myofibroma; M, M, myxoma and myxofibroma.

portions of the tumor. The largest fields were seen in that portion of the tumor near the uterine cavity.

The myxofibrous tissue as a rule abruptly bordered the myxomatous fields, although the connective tissue trabeculæ of the latter could everywhere be seen in connection with the fibrous connective tissue of the myxomatous portion. The trabeculæ in the myxomatous fields were made up either of single fibres or bundles of such fibres interlacing without regularity. The meshes produced by the reticular arrangement of the trabeculæ were filled with a light myxomatous basis-substance. Evidently the myxomatous tissue was a secondary formation in the myxofibroma, therefore a metaplasia of muscle and fibrous connective tissue into a myxomatous and myxofibrous connective tissue. Such a transition of different though kindred tissue varieties was possible only by an intervening formation of medullary or embryonal tissue. Thus we see in the already formed myxomatous fields clusters of medullary or embryonal corpuscles, sprung both from the muscle-fibres and the intervening connective tissue, with a simultaneous dissolution or liquefaction of the basis-substance of the latter. The image of such medullary portions closely resembles that of inflammation, which we also know to be a reduction of an already formed tissue to its embryonal or medullary condition. The myxofibrous tissue of the tumor was not only found inflamed but in some places the changed myxomatous portion was becoming waxy.

The most central portions of the tumor, which was, as stated above, soft, almost jelly-like, and of a structure somewhat resembling cauliflower, under the microscope exhibited peculiar tissue changes.

In the neighborhood of the soft portions the bundles of smooth muscle-fibres appeared pushed apart by fields of an embryonal or medullary tissue, which sprung both from the connective and smooth muscle-tissue of the tumor. Near the softened parts the tissue was found disintegrated into a granular mass, in which no structure, but only small tracts of fibrous connective tissue, with interspersed granules and glistening irregular lumps, were seen. No doubt the disintegration of the tissue was due to a serious inundation and subsequent hydropic swelling of the medullary tissue, the elements of which were in a condition termed coagulation necrosis by Weigert, or necrobiosis by Virchow. Owing to disturbances in the nutrition of the central portions of the tumor, first a reduction and afterward a disintegration has taken place, rather unusual in tumors of such a pronounced degree of consistency as that of myofibroma. Some of the muscle-fibres of the myofibroma escape the reduction into medullary tissue and remain directly traceable into the softened and disintegrated portion. Such fibres become simply hydropic, as best exhibited by their transverse sections, which in this situation have assumed almost the size and shape of epithelia. Other fibres directly enter the condition of coagulation necrosis, proven by the lack of carmine stain of such fibres. The living portions of the myofibroma readily stain with a solution of ammoniacal carmine, whereas the necrotic portions remain entirely untouched by the carmine, and by their yellowish tint become conspicuous.

In looking at this tumor, its position, and the circumstances of the case, what would suggest itself as the most desirable method for its removal—one that would take the shortest time, give the least shock to the patient, and contribute most to her welfare and safe recovery?

In 1886 I saw Austria's great surgeon, Billroth, in his management of the pedicle intraperitoneally; but in this case would not such manipulations have been extremely trying or impossible? The same year I saw the unrivalled surgeon, Lawson Tait, of Birmingham, and Dr. Bantock, of London, treat the pedicle extraperitoneally in suprapubic hysterectomy; but even for this pro-

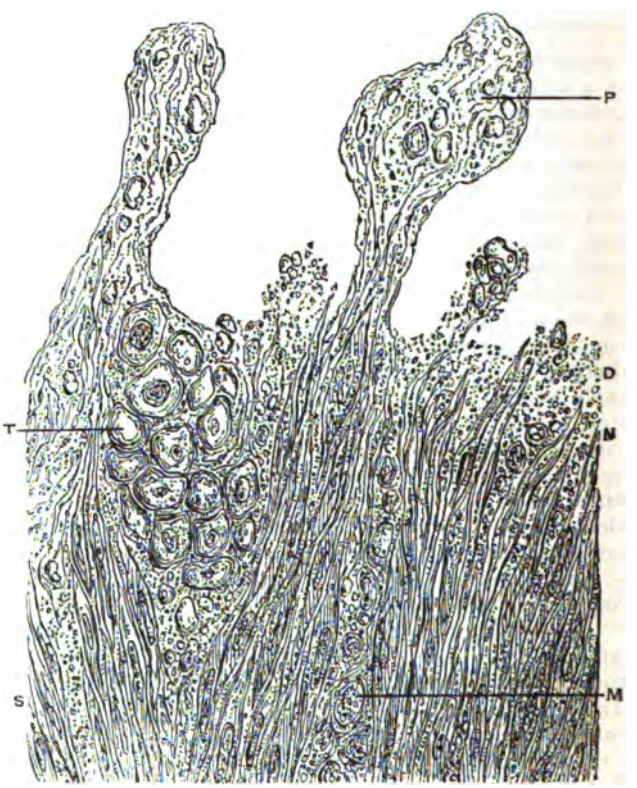

FIG. 4.—Softened Necrotic Central Portion of Myofibroma. S, Unchanged smooth muscle-spindles; N, muscle-spindles in coagulation, necrosis; M, medullary tissue between the muscle-bundles; D, disintegrated, hydropic portion; T, hydropic muscle-spindles in transverse section; P, papillary excrescences of the necrobiotic portion.

cedure would there not have been almost insuperable difficulties?

At the meeting of the New York Obstetrical Society, June 15, 1889, three eminent surgeons of this country gave their preferred methods, and each thereby had ob-

tained most excellent results. Dr. C. C. Lee gave preference to the clamp—out of eleven operations he had ten recoveries;[1] but would the clamp have been elected for this case? Dr. Wylie's excellent method as he describes it: "First ties the broad ligaments with silk, then puts on the wire, inclosing only the stump; thus he has three stumps brought together in a way to prevent the entrance of pus into the tissue of the broad ligament." Dr. Polk first ligates the broad ligaments, enucleates the uterus as low down as it is proposed to make the amputation, and places the serre-nœud between the peritoneal covering and uterine tissue proper, and then stitches the sac, the bottom of which is represented by the stump of the uterus, to the abdominal walls. This is a beautiful plan to avoid as much as possible the danger and evils of the stump. But would any of these procedures meet the indications of this case?

Surgeons have long recognized the dangers of the stump, whether much or little is left, or whether treated intra- or extra-peritoneally. Professor William Polk at the same meeting said: "It occurs to me that leaving a large suppurating, or rather gangrenous, stump is a surgical fault seriously threatening the life of the patient, and that improved means should be devised whereby it can be got rid of. I should like to take the views of the members upon the propriety of total extirpation of the uterus. I believe it is time to look about for means of getting rid of the slowly sloughing stump, which is constantly a source of danger in addition to what pertains to ordinary laparotomies."

May 15, 1887, I performed supra-pubic hysterectomy for a myoma weighing, as then estimated, nine pounds. The stump was treated extraperitoneally; patient was able to sit up the thirty-fifth day, left the hospital in two months in good condition, and since has reported herself in excellent health. When I presented the tumor before the New York Pathological Society, November 23, 1887, I stated that I believed a better and more natural procedure would have been, after opening the abdominal walls—being assured of the condition of affairs, and liberating any adhesions that might exist—then to have severed the vaginal connections, as in colpo-hysterectomy, and so remove the entire uterus. Or, if the body of the tumor or uterus were removed through abdominal incision, then to remove the uterine stump per vaginam, and, after "la toilette du peritoine," close the abdominal walls and leave the vaginal opening as the best and most natural mode of effecting drainage. I also gave the following reasons for favoring this procedure: 1, It would shorten the operation; 2, would be less shock to the patient; 3, would lessen the dangers of the operation; 4, the patient would make a rapid recovery.

I carried this method out February 16, 1888, for a tumor weighing thirteen and a half pounds.[2] The patient came to my office January 17, 1888. Forty years of age, twice married, and no children. A uterine myoma extended from the cervix to within an inch of the ensiform cartilage, and was larger than the uterus at term. It interfered with her breathing and gave rise to distressing neuralgic pains; her emaciated body was only a framework to support the growth. When told by a physician whom she consulted that the attempt to remove the tumor would cause death, she said that she would rather die than live, that she had often studied how she might destroy herself.

This patient entered the Woman's Hospital of Brooklyn February 5, 1888, operation eleven days after. The incisions in the abdominal walls extended two inches above the umbilicus. The tumor was lifted out by Tait's screw; a temporary rope clamp[3] was then thrown around the tumor and a great portion removed; Koeberle's clamp was screwed on lower down, when other portions were enucleated. The pedicle thus secured consisted of a mass of tumors, one of which was three inches in diameter, all closely packed in the lower pelvis. I proceeded at once to remove this portion as in vaginal hysterectomy. Dr. Charles Jones took charge of the abdominal wound, temporarily closed and covered with aseptic gauze, and greatly assisted me by pushing down the cervix with the contained tumor.

After separating the vaginal connections, large forceps were passed up from below, guided by the hand of my assistant, to clamp each of the broad ligaments. The size of the tumor in the cervix and around rendered it necessary to deliver the mass through the abdominal opening. The peritoneal cavity was washed out, the vaginal wound left open for drainage and treated as in vaginal hysterectomy. The large forceps which clamped the broad ligaments projected from the vaginal opening and were left on for thirty-six hours. Smaller forceps clamping the vaginal wound were left on twelve or twenty hours. The patient made a most rapid recovery, was up on the seventh day, able to sit up on the eleventh, and was practically well on the twelfth or fourteenth day. No such results could possibly have been secured if the stump had been left.[1]

By thus removing the cervix, or entire uterus, we not only got clear of the stump, but of the great mass of loose tissue which surrounded it and which, if it had remained, would doubtless have produced the most serious consequences.[2]

Goffe's method, as reported by the *New York Obstetrical Journal*, is, as he describes it, "taking out the whole of the uterus except a bit of the cervix, covering this over with peritoneum." But in all his cases, as he reports them, the temperature went up the fourth or fifth day, which, says Dr. Goffe, "means suppuration under the flap, with danger of the pus bursting into the peritoneal cavity;" so in each case he dilated the cervix, drained, and irrigated. Of one he said, "a gentle amount of pressure caused the exit of about half an ounce of pus and broken-down tissue." The same procedures are used by Dr. A. P. Dudley. "He dissects out the uterus to about three-fourths of an inch of the cervix." The third day there is the same rise of temperature, the same process of dilating for discharge of pus. Thus, invariably, a certain amount of suppuration seems to accompany this method, so, with "a bit of the cervix left," there cannot be, as Dr. Goffe expresses it, "all the elements of safety." At a meeting of the New York Obstetrical Society, November 5, 1889, when Dr. Boldt presented "an interstitial uterine fibroid," removed by my method of total extirpation of the uterus. Dr. Dudley inquired what advantage there is in removing all the cervix over that form of hysterectomy which leaves part of the cervix as a stump. Dr. Boldt well replied, "By leaving a portion of the stump the patient is exposed somewhat to sepsis, which can be avoided by complete hysterectomy."

In the *Medical News* of July 7, 1889, Dr. Lewis A. Stimson reports a case of hysterectomy, removing the whole organ through the abdominal wound, commencing, as Dr. Stimson states, by "a preliminary ligaturing of the uterine arteries." He says: "The outer portion of each broad ligament was clamped with hæmostatic forceps. The uterus was peeled away from the peritoneum, well down to the cervix, and then its body cut away by this transverse cut. The stump of the uterus was seized with the volsella, the cervix rapidly dissected out until the

[1] In 1885 I witnessed Dr. Lee perform supra-pubic hysterectomy for an immense cystic fibroid. The patient did well. I was privileged to see her during convalescence.

[2] This case was reported in the New York Medical Journal, August 25, and September 1, 1888, and by Dr. C. N. D. Jones in the International Journal of Surgery and Antiseptics, April, 1888.

[3] Dr. C. N. D. Jones's modification of Tait's temporary clamp. See New York Medical Journal, June, 1888.

[1] In my report of the case in the New York Medical Journal, August 25, and September 1, 1888, an oversight was made in representing the large forceps as projecting from the abdominal wound. I know of no way to account for this error, except that at the time of that writing I performed a laparotomy for removing a cancerous ovary adherent to the pelvic walls, and the hemorrhages were so uncontrollable that it was necessary to clamp the fascia of the pelvic wall, and necessarily the forceps had to be of sufficient length to project through the abdominal wound.

[2] July 7, 1890, patient said she was in excellent health, every way comfortable.

vagina was opened into. After opening had been made the finger was withdrawn and reintroduced through the opening in the vagina to serve as a guide in the divisions of the remaining attachments of the cervix."

This is removing the stump with the tumor, and is practically the method I proposed; differs only in the manner of performing it, viz., the cervix instead of being separated as per vaginal hysterectomy, is "dissected out" from above. By thus separating the "attachments of the cervix" by dissecting it out from above there is more exposure of the abdominal cavity and, necessarily, more danger of wounding the bladder, the uterus, the rectum, etc. One great gain of removing the stump as per vaginal hysterectomy is that the peritoneal cavity need not be kept open so long, in many instances only a few minutes, the principal work being performed from below and through the vagina, making the whole operation not much more than a vaginal hysterectomy, and thus immensely simplifying this grave operation, which T. A. Emmett says "is the most difficult one a surgeon can be called upon to encounter." The prolonged opening of the peritoneal cavity which is necessary in the other methods seriously exposes some of the vital organs of the body to injury, exposes to some extent the great organic nerve-centres, thereby causing a greater shock to the patient, more completely exhausting her and fearfully increasing the liability of sepsis. Probably these factors will explain why Freund's method has been attended with such fatality. The separation of the stump through the vagina or from below is easier for the surgeon, infinitely more tolerable to the patient, and attended with greater safety and better results. Women seem wonderfully tolerant of it. It is almost like the parturient act, it is in the line of all the efforts and straining of the abdominal muscles; while in pulling up the pedicle the peculiar tension is opposed to all the efforts of nature and is a continued shock to the patient. So tolerant do women seem to be of vaginal hysterectomy, that in some instances the next day after the operation they appear as if nothing had happened, or as if they had simply passed through a normal parturition. On November 28, 1887, I removed the entire uterus from a woman who had not been able to sit up for months, completely exhausted by the constant watery and bloody discharges; she was carried in the nurse's arms to the operating table, so weak that we feared the breath would leave her body before the operation was finished. The operation lasted twenty-three minutes. The next day she appeared less exhausted than before the operation, gained strength rapidly, and on December 15th she was able to sit up, on the 23d left the hospital apparently well, and since has been able to assume the charge of her large family.

The plan of Dr. Stimson, of first tying the ovarian arteries, seems to me most excellent, and is an easy way of controlling hemorrhage; but Dr. Polk said at the meeting reported, May, 1890, that "it was unnecessary, for one could ligate *en masse* without any difficulty." He said, further, "ligating *en masse* shortens the operation." Dr. Bantock reported in the *British Gynecological Journal* for 1890, page 75, "the very first case in which he removed a fibroid tumor from the uterus he secured both the ovarian and uterine arteries separately and then put a serre-nœud around the body of the uterus, and it was extraordinary how much bleeding he got."

At the meeting of the New York Obstetrical Society, February 18, 1890, Dr. Polk incidentally remarked: "The operation introduced into this country by Dr. L. A. Stimson, of removing the entire uterus including the cervix." Is not this a mistake? Dr. Stimson says his first two cases were reported to the New York Surgical Society, January 9, 1889, published in the New York *Medical Journal* March 9, 1889. My first case was reported to the New York Pathological Society February 22, 1888, and published in the New York *Medical Journal* August 25, and September 1, 1888.

Dr. Krug said at the same meeting "he had yet to find a case recorded in which laparo-vaginal hysterectomy (opening the abdomen first and then finishing it per vaginam) had been done intentionally from the first. In most cases when the combined method had been adopted the operator had started to do vaginal hysterectomy."

The doctor will see from the published report that I not only "intended" it when I commenced the operation, but gave notice nearly three months beforehand that I would adopt the plan. Since, I have pursued the same method in two instances, with the previous intention, and the full conviction, that the procedure would give a more rapid recovery, than if the stump were left, however it might be treated. It did happen that in 1888 I commenced to do vaginal hysterectomy with no idea of opening the abdomen, but found the tubes and ovaries so adherent from secondary infiltration that it was necessary to make abdominal sections in order to proceed with the operation.

In the *Journal of Obstetrics*, 1889, is a report of the proceedings of the Chicago Gyneocological Society for December 16, 1888. At this meeting Dr. E. C. Dudley, in presenting a case of vaginal hysterectomy, is quoted as follows: "This operation may have a wider field than ordinary vaginal hysterectomy. I have determined that the next case I have of uterine myoma, when supra-vaginal hysterectomy would ordinarly be performed, to open the abdomen, lift the the tumor out through the abdominal wound, and then, instead of using the serre-nœud, to secure the broad ligament by means of lock forceps in vagina."

In this there is no intimation given of removing the cervix, the doctor merely calls attention to securing the broad ligaments with forceps instead of using the serre-nœud. In reply to the remark by Dr. Dudley, Dr. C. N. D. Jones wrote a letter, April 11, 1888, to the *American Journal of Obstetrics*, "On removal of Uterine Myoma by Combined Abdominal and Vaginal Hysterectomy," in which he said: "If Dr. Dudley will examine the MEDICAL RECORD for December 24, 1887, he will find that he is anticipated in this suggestion. In the proceedings of the New York Pathological Society, held November 23, 1887, and reported in this number of the RECORD, Dr. Mary A. Dixon Jones presented a modification of the operation, namely, liberating the vaginal walls and removing the uterus entirely. February 16, 1888, this conception was put into execution. The abdomen was first opened and the mass of the tumor removed above a wire serre-nœud, which encircled the cervix, the abdomen was then temporarily closed and the vaginal connections were severed from below. This was the most difficult part of the whole operation, from the fact that a portion of the myoma occupied the cervix. After the cervix was freed the thumb and index-finger of an assistant was made to straddle the right broad ligament from within the pelvis, so as to serve for a guide in passing the blades of a pair of large forceps from below around the broad ligament. The remaining uterine connections were rapidly secured with ligatures and forceps. The loss of blood was trifling."

In the meeting of the New York Obstetrical Society February 18, 1890, Dr. C. Cleveland read a paper entitled, "Laparo-vaginal Hysterectomy." He said: "I first made a short abdominal incision, the opening in the peritoneum I temporarily closed by a small clamp, and covered the wound with an aseptic pad. I then proceeded as in vaginal hysterectomy. The forceps were applied from below, my hand guiding them to the top of the broad ligament."

Dr. Krug's method as then reported was: "First an abdominal incision, the uterus lifted out, its attachments tied till Douglas's sac is reached, the operation completed as is usual in vaginal hysterectomy. No clamps were used, ligatures were applied, but with much difficulty."

Dr. Hanks reported at the same meeting of the New York Obstetrical Society: "He commenced with vaginal hysterectomy, afterward made an abdominal incision, and

with his finger in the abdomen directed the forceps introduced from below by his assistant, the uterus was then separated and removed through the abdominal incision."

These were all cases of cancer. I refer to them only as methods of clamping the broad ligament from below, a procedure that I think was first carried out in the case I reported on February 16, 1888.

Dr. Mendes De Leon, of Amsterdam, wrote me October 20, 1888: "Only yesterday I returned from a trip to Berlin. Martin told me he had performed four hysterectomies, with vaginal extirpation of the pedicle. As soon as he will reach the series of ten he intends to publish it. Is this method of tying the pedicle yours or his? I am very anxious to know more about this question. Perhaps you may find time to let me know one of these days."

Professor A. Martin, of Berlin, was in this country only two months before I presented the subject to the Pathological Society. In several of his addresses while here he spoke of the treatment of the pedicle, strongly favored the intraperitoneal method; so far as I know he did not mention the vaginal extirpation of the stump, nor did any one else previous to my publication in November, 1887.

Dr. T. J. Crofford, of Memphis, Tenn., sent a communication to the *American Journal of Obstetrics*, May, 1889, entitled, "A New Method of Performing Hysterectomy." He says: "I long for something simple;" and adds: "I propose complete removal of the womb as against all other methods of performing hysterectomy."

It delights me to know that Dr. Crofford so entirely approves of my procedure, though he made no reference in any way to me or my work. It is also pleasant to see the similarity in thought, as may be noticed in the following quotations from my paper, November 23, 1887, and from Dr. Crofford's article, May, 1889.

"In both methods of operation, extraperitoneal or intraperitoneal, the stump is a source of most of the dan- r."—JONES.

"All will agree that the pedicle is a source of danger, it matters not where it may be placed."—CROFFORD.

"What is the good of preserving the stump intraperitoneally or extraperitoneally? It can be of no service, but may do much damage."—JONES.

"Just what good this cervical stump can do when left I am unable to appreciate, and just what harm would accrue from its total ablation I am unable to divine."—CROFFORD.

I then give in order the following reasons why the stump should be removed, Dr. Crofford gives in order the advantages; and, by a singular coincidence, the four "reasons" and four "advantages" have a great similarity, and even corresponding numbers.

1. "Removing the stump very much shortens the operation."—JONES.

1. "It takes less time to do the operation."—CROFFORD.

2. "There will be less shock. Certainly to cut through such an organ as the uterus causes more profound shock than severing the vaginal membrane."—JONES.

2. "There is less shock after cutting vaginal than after cutting uterine tissue."—CROFFORD.

3. "This mode would very much lessen the danger of the operation, principally that it gets clear of the stump, '*et toutes ses douleurs.*'"—JONES.

3. "It does not leave a stump that predisposes to hemorrhage or infection."—CROFFORD.

4. "The patient would make a more rapid recovery."—JONES.

4. "It does not give a protracted convalescence."—CROFFORD.

Dr. Crofford adds as a fifth advantage, that "the removal of the cervix does not leave a weakened abdominal wall." On this point I am sorry to have to disagree with Dr. Crofford, for, whenever laparotomy is performed the abdominal walls are necessarily weakened, and consequently must give more or less danger or liability to hernia. Dr. Joseph Price, of Philadelphia, says: "Hernia cannot always be avoided, even by the most careful. They are, therefore, excluded from the avoidable sequelæ."[1]

Conclusion.—Our great object in trying or studying any method is to diminish the dangers of the operation and lessen the suffering of the patient.

ON THE RENEWED EMPLOYMENT OF THE NASAL DOUCHE AND KINDRED PROCEDURES.[2]

BY ALBERT H. BUCK, M.D.,

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SEVERAL years ago Dr. Roosa, of this city, published an article in which he warned his medical brethren that the use of Weber's nasal douche could not be considered as an entirely harmless therapeutic procedure. He narrated a number of instances in which more or less serious inflammation of one or both middle ears had followed the use of the douche; and at a later date several other writers, myself among the number, reported many additional cases. It was observed also that other kindred procedures, like snuffing up fluids through the nasal passages, syringing these cavities either from in front or from behind, etc., were at times followed by the same aural inflammation. For a period of several years it seemed as if these warnings had been generally heeded, for, in my own practice at least, cases of inflammation of the middle ear following the use of some one of the procedures referred to above, became noticeably less frequent during this period. Now, however, the frequency of this class of cases is again decidedly on the increase. During the past winter and spring I have seen a larger number of them than at any previous period of my practice, and I thought it might not be amiss if I were to call attention once more to the harmful results which occasionally follow the use of the nasal douche and similar procedures.

As was also the case in former years, the favorite remedy in these recent cases seems to have been a weak solution of salt in water. In a few instances the resulting inflammation of the ear was very severe, but in the majority there was simply an increase of the subacute nasal and aural catarrh, for the relief of which the nasal douche or the snuffing method had been prescribed. In a small group of cases the aggravation of the aural symptoms seemed to owe its origin to the frequent use of Dobell's solution in the form of a nasal spray.

The question, How frequently do these aural complications arise in cases in which such therapeutic methods are used? is one which I am unable to answer. In the first place, I never use these methods in my practice, and consequently I am unable to say from personal experience how often the ear becomes involved; and when I ask my friends who devote their attention specially to nose and throat affections, and who are in the habit of prescribing the use of the douche, they uniformly answer that aural complications are exceedingly rare—so rare, in fact, that they have no hesitation in continuing to use these methods and remedies. I am at a loss to know how to harmonize these favorable reports with the frequency with which such cases present themselves for treatment in my own practice.

The question which would most naturally be asked of me in connection with this matter is, What safer and yet equally efficient plan of treatment would you recommend to take the place of those which you characterize as objectionable? I reply that, except in a single particular, the objects sought to be attained by these ob-

[1] Medical News, May 31, 1890.

[2] Read before the American Otological Society, July 15, 1890.

jectionable procedures may be equally well secured by the free use, in the form of a spray, of such fluid mixtures as

℞. Eucalyptol and oil of wintergreen, each... gr. j.
Menthol..... gr. ij.
Benzoinol..... ʒ ij.
M.

Or, if the patient dislikes an oily preparation, the following may be prescribed:

℞. Listerine..... one part.
Water..... three parts.
M.

In the presence of an accumulation of viscid mucus or of crusts, a stream of flowing water will doubtless be found a more effective cleansing agent than a stimulating spray; but it is only in this respect that I can perceive any superiority of the douche over the sprays formulated above. Furthermore, if the latter are used freely—that is, several times a day, and each time during the inhalation (by the patient) of a deep breath, with closed mouth, crusts and tough mucus will speedily cease to play a part in the therapeutic problem.

In not a single instance have I known the freest introduction of the mixtures named to be accompanied by any unpleasant aural symptoms. The immediate effects are very gratifying to the patient, and in a brief time a permanent diminution of the nasal and naso-pharyngeal irritation can generally be noted. The use of sprays, however, must be looked upon only as a valuable method of supplementary treatment, and not as a therapeutic procedure of the first order. The removal of hypertrophied glandular tissue and the local application of silver nitrate are the only remedial measures that are at all worthy of being considered fundamentally curative of the conditions which usually lead the physician to prescribe the use of the nasal douche or one of its substitutes.

TWO CASES OF MALIGNANT DISEASE OF THE PHARYNGO-LARYNX AND LARYNX.

By J. MORRISON RAY, M.D.,

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Cancerous disease of the lower pharynx and larynx is sufficiently uncommon to permit the report of two cases. These presented points of interest in their history and progress—not the least important of which was the extent of disease present when medical care was sought, and the rapidly fatal termination in each.

Case I.—Thomas L——, aged thirty-six, Englishman, dog-trainer, came under observation at the Louisville City Hospital, March 1, 1888. He was a man of good physique, only slightly emaciated, with much difficulty in breathing, and aphonic. The dyspnœa was so great that Dr. Vance, in charge of the surgical wards, was asked to see the case at once with the intention of performing tracheotomy. On my examining with the laryngeal mirror, the upper portion of the larynx was found to be filled with a large, irregular, warty mass, covered with mucus and pus. The pyriform fossa was filled with the growth, the epiglottis pushed far to the left and its right free edge involved. The chink of the glottis was overhung by the tumor. From the great effort required in breathing and the narrow space left through which air could enter, an immediate tracheotomy was demanded. This was performed by Dr. Vance under local hypodermic injections of cocaine. The relief from dyspnœa following introduction of the tracheotomy-tube was immediate. In a short time quiet sleep was procured. The next day he appeared bright and was breathing easily. The following history was obtained. He had suffered with some throat trouble for two months. The hoarseness increased rapidly, and for about two weeks there had been progressive difficulty in breathing. There had been no great trouble in swallowing until within a few days. No enlargement of the lymphatic glands in the neck, and no pain in the ear, or hemorrhage. The relief following the tracheotomy lasted only for three days, when respiration again became labored, and notwithstanding the introduction of a longer tube, he died on the sixth day with exhaustion from labored respiration.

The larynx and trachea, with the tongue attached, were removed by one of the internes. On longitudinal section a growth was found involving the entire right half of the larynx, extending on to the epiglottis. Below the lower edge of the growth the trachea was enlarged to nearly twice its normal calibre. The tissues surrounding the tracheotomy orifice were necrotic, but the orifice was not encroached upon by the neoplasm. Dr. Simon Flexner kindly examined the growth microscopically, and reported that "it presented all the features of a typical squamous celled epithelioma. Notwithstanding its rapid proliferation, the cellular elements were well formed and the cell-nests numerous, large, and strikingly perfect."

The local appearance of this tumor, when viewed through the laryngeal mirror, was that of an epithelioma, but the age, absence of glandular enlargement, hemorrhage, and only slight pain on swallowing led to the belief that it was a sarcomatous growth.

Epithelioma are the most frequently encountered of all growths in this locality. In Mackenzie's report of 53 cases of malignant growth involving the larynx proper, 45 were epithelioma. Of these only 6 occurred between the ages of thirty and forty. The question of extirpation was never considered in this case, since the tracheotomy did not prolong life as much as had been expected. Had the case been seen earlier in its progress and its nature recognized, tracheotomy, followed by extirpation of the right half of the larynx, might have added several years to his life. Mackenzie states that the average duration of life in epithelioma of the larynx is from eighteen months to two years. It is remarkable in this case for the growth to have existed so long and only within two months given rise to symptoms referable to the throat. The cartilaginous framework of the larynx was not involved in the growth.

Case II.—Dr. ——, retired physician, consulted me through the request of Dr. E. R. Palmer, in May, 1889. He had formerly lived in Kentucky, but for the past fifteen years had been a resident of Florida. Several years ago he had much trouble from recurring tonsillitis, but since his residence in the warm southern climate this had disappeared. In January, 1889, he began to expectorate considerable mucus, and he noticed an enlargement of one of the lymphatic glands beneath the angle of the jaw on the right side. When a young man he contracted syphilis, but underwent prolonged treatment, and had not in forty years noticed symptoms of the disease. The throat annoyance has gradually increased, and coming to Kentucky on business, he concluded to seek advice. He appeared somewhat exhausted, as he explained, from long travel, was always a man of slight flesh; nevertheless he had been strong before starting on his journey. His voice was clear, his swallowing was not painful, but very deliberate. Had suffered at times with darting pains in the right side of the neck, extending up to the ear. Breathing was free. On examination I found nothing in the oro-pharynx. With the laryngeal mirror a mass was seen projecting from the right lateral wall of the pharynx above the entrance into the larynx. It was covered with pus, and was about three-fourths of an inch long and one-half of an inch in width, and protruded so as to interfere with the epiglottis during the act of deglutition. The lymphatic glands on right side of the neck are enlarged. The larynx could be seen, and no growth extending into it was discovered; yet the right half was partially fixed and the opposite vocal cord in its excursions passed beyond the middle line to the right. There was no family history of cancer. His father died at an advanced age and his mother still lives. The brothers and sisters that

died had succumbed to acute diseases, three still living and healthy. One week after my first examination he was seen in consultation by Dr. Coomes, and with his assistance I removed with the laryngeal forceps a piece of the growth that made up about one-third of the projecting mass. In a few days another attempt was made, and the growth removed almost to a level with the walls of the pharynx. After these operations the glandular infiltration in the neck rapidly increased. Dr. D. W. Yandell was consulted as to the advisability of an operation from without, but he advised against external interference. The patient was also presented to the Medico Chirurgical Society, and the question of a radical operation discussed, but the majority of opinion was averse to such proceeding. The growth soon again became prominent in the throat, and interfered with deglutition by obstructing the epiglottis. The right arytenoid prominence became boggy and infiltrated, and the right cord fixed. Another operation with forceps and galvano-cautery was resorted to, after which deglutition was easier, but the glands in the neck rapidly enlarged after the operation, and extended from the parotid gland to the clavicle. They were very hard and growing more painful. August 1st he began to show well-marked signs of the cancerous cachexia, and soon went to the home of his family in this State, where he died August 30th from exhaustion, without signs of obstructed respiration. No autopsy. The pieces removed with the forceps at two different sittings were submitted to Dr. Simon Flexner for microscopical examination. He reported that "the portion removed at the first operation showed many embryonic elements and but few epithelial cells, with a total absence of alveolar structure. The pieces removed subsequently presented the appearance of typical encephaloid carcinoma. It seems that the first tissue examined was from the margin of the spreading growth and consisted of the so-called indifferent tissue, the precursor of carcinomatous invasion."

When this case was first seen and the history obtained, it was thought that it might be specific, and to clear up this doubt potass. iodide was given in increasing doses, but without effect. Later on, under the recommendation of Baratoux, the tincture thuja occidentalis (arbor vitæ) internally and locally was tried, but without effect on the rapidity of the extension or the excessive secretion, which had become a great annoyance.

Again, in this case the rapidity of the growth is at variance with the teachings of Mackenzie. He says the duration of life in encephaloid is three years. As to the frequency of growths in this locality, Lenox Browne says they are rare, but when present are usually encephaloid.

Remarks.—These two cases present different varieties of cancerous involvement of contiguous parts. One in a man thirty-six years of age, the other in a man of fifty-nine. They ran a much more rapidly fatal course than, from the writings of others, we had been led to consider. In neither case was there a history of hemorrhage or great pain until the last, at which time the second case required large doses of morphine to control the lancinating pains on the side of the neck, ear, and head. In both cases the growth was on the right side. Fauvel states that from his observation the majority of malignant growths primarily in the throat are on the left side. Glandular infiltration in the neck was present in the case where the growth originated in the lower pharynx. In the other, where the larynx was the seat of the growth, at no time was there discovered gland enlargement. This observation is in accord with the statement of Krishaber, in that extrinsic cancer of the larynx (pharyngo-larynx) very early in its course produces glandular infiltration, while intrinsic cancer rarely induces cervical gland enlargement. In the case where gland enlargement was present it eventually became the most annoying symptom, since it gave rise through pressure to intense pain. After each attempt at endo-pharyngeal removal the glands became rapidly larger. Newman, of Glasgow, has recently noticed the same effect, and therefore argues that on this account operations for removal through the mouth must not be attempted, but the growth should be removed by an operation from without. From careful observation of these two cases, I am led to believe that malignant diseases involving these parts are much earlier fatal than we are led to believe. Therefore, any method to be resorted to for their eradication must be done early, thoroughly, and, preferably, by external incision.

419 West Chestnut Street, Louisville, Ky.

Progress of Medical Science.

Primary Cerebral Sclerosis in Children.—Richardière says: 1. There are several forms of primary cerebral sclerosis in children. 2. Of these there are two which are especially prominent: (*a*) A sclerosis of a whole hemisphere or of an entire lobe; (*b*) a sclerosis which occurs in distributed tuberosities on the surface of the convolutions. 3. The first form extends over a large surface of the brain-substance and produces the atrophic sclerosis. 4. The second form produces elevated nodules and increases the cerebral substance forming the hypertrophic sclerosis. 5. The atrophic form is characterized anatomically by diminution of the volume and hardening of the convolutions; histologically, by the development of connective tissue, dilatation of the blood-vessels, and atrophy of the nerve-elements. 6. The nodules of the hypertrophic form are made up of connective tissue. 7. The starting-point of these lesions seems to be the vessels. The atrophic lobular sclerosis seems particularly to be an arterial sclerosis. 8. Primary cerebral sclerosis occurs in children between the third and fifth year. Its nature is obscure, although it sometimes follows the infectious diseases. 9. The atrophic sclerosis manifests itself by convulsions, epileptic attacks, paralysis, and contractures, which are of long duration. 10. The symptoms of hypertrophic sclerosis are almost identical, but the change in the intelligence is less marked, and the paralytic phenomena more discriminated. The symptoms are not of such long duration. 11. The prognosis in reference to the intelligence and motility of the children is an unfavorable one. 12. The diagnosis is not difficult when we can exclude hemorrhage and brain diseases, which lead of themselves to atrophy.—*New York Medical Journal.*

Hypogastric Puncture of the Bladder.—Dr. Deneffe says that too serious a view is taken of hypogastric puncture of the bladder in cases of retention. It ought not to be considered as dangerous, and as a last resource. He quotes a case of hypertrophied prostate which prevented micturition and catheterism, in which the patient was punctured seventeen times without suffering any inconvenience. The seventeenth time, the trocar was allowed to remain, and ten days afterward micturition took place spontaneously through the urethra. Nevertheless, the trocar was allowed to remain twenty-nine days, when it was removed. The fistula was closed in four days, and the patient recovered permanently.

Hypogastric puncture is considered a mild operation by Dr. Deneffe, and he states that he has performed the operation on three hundred and one patients, with a mortality of only two and a half per cent. A patient suffering from enlarged prostate or stricture suddenly cannot micturate, and this is usually due to a sudden spasm of the posterior portion of the urethra being superadded to the original lesion. Catheterism is not adapted to reduce a spasmodic contraction, and the urethra affected by spasm can only be benefited by the contact of irritating urine being removed.—*Journal de Médecine de Paris.*

Death of Professor Neugebauer.—Dr. Neugebauer, the well-known gynecologist of Warsaw, died while attending the Medical Congress at Berlin.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, September 6, 1890.

DISEASED CRAVINGS AND PARALYZED CONTROL.

IN a series of interesting articles in the *Edinburgh Medical Journal*, December, 1889, to May, 1890, Dr. Clouston discusses this important and difficult subject in its general aspects, and adds his views, to which we cannot now particularly refer, in regard to the peculiar characteristics of each of the prominent drug habits.

Desires are but the indications of the needs of the organism. In a perfectly healthy man all his desires and cravings can as a rule be gratified in some proper way at some proper time, so as to promote the good of body and mind, none requiring absolute inhibition. The proper time and way to gratify them is determined by the controlling influence of reason, experience, and law. A craving which leads to harm is a diseased craving.

The strongest and most subtile desires of man arise in the highest centres of the cerebral cortex—in the emotional centres, and are not necessarily connected with any functional activity of the lower nervous centres, as the sympathetic or visceral ganglia.

The impulses which guide and regulate these desires must also proceed from the highest cerebral regions. They are not purely of a spiritual nature, but are associated directly with physical changes in the brain-tissue. The waste of substance which occurs during the exercise of such inhibition is evidenced by the feeling of fatigue and the circulatory changes which follow any prolonged attempt to direct or to restrain the desires.

For the manifestation of hurtful desires there must be present a diseased craving, and also a paralysis of control.

The peculiar work that the nerve-cell must do requires that it should be not sluggish and stable, but sensitive and unstable. In certain individuals this sensitiveness and instability are carried to excess and the cell acts in an explosive manner. In a motor cell this abnormal condition gives rise to convulsions and exaggerated reflexes; in an emotional centre, it causes explosions of passion and diseased cravings. A tendency to this emotional condition is obtained by heredity from ancestors whose brains have been subjected to undue excitement or have been poisoned by alcohol, opium, or syphilis.

Such brain-cells, when fatigued by their own excessive action, which is frequently out of all proportion to the strength of the body, excite an intense craving for restorative agents. Now, recuperation through rest and food is a slow process, and very irksome to many individuals. They find in alcohol and certain other drugs something which has a special affinity for these tired nerve-cells, which produces a rapid and pleasurable relief to the sense of fatigue, enabling them to continue their immoderate activities without the refreshment and rest which is really needed. The result is that, when the influence of the drug is gone, a double weakness is felt and an increased temptation to resort to the drug, moreover, as Dr. Clouston expresses it, a "memory" of the craving for the drug continues for a long time, and may even be handed down to posterity as a quality of the fœtal nerve-cell.

Inhibition or control over the emotions and over conduct is the highest function of the human brain. Among savages and persons of little culture control may be very feeble in regard to some emotions and very strongly developed in regard to others. In the child control of the emotions is gradually developed, and that more rapidly in some than in others. The power to do the right and refrain from the wrong is earliest seen in a good stock. This power is slow in development, or may never become strong, in the children of habitual criminals, drunkards, and insane persons. The power of inhibition and control may, even in the best stock, be destroyed by alcoholic poisoning.

Just as diseased cravings may occur without paralysis of control, the cravings being kept in check by the will, so paralysis of control may exist without the occurrence of diseased cravings, the patient, though destitute of the power to resist evil suggestions from without, like a person hypnotized, yet passing through this diseased state into convalescence without doing anything amiss, requiring only a little wise guidance from the attendant. In most cases, however, diseased cravings and paralyzed control occur together, although it is not easy to see why the one should involve the other.

In conclusion, the coexistence of these states may arise from or accompany: 1, Inherited feebleness of brain power; 2, neurotic states in adolescence; 3, continued dissipation; 4, excessive mental strain; 5, lack of education in right ways; 6, want of needed mental stimulation, as from social intercourse; 7, physiological strains, as menstruation, in persons of nervous temperaments; 8, insanity, as a complication; 9, insanity, as an alternative state; 10, gross brain disease, as from injuries; 11, senile brain degeneration; 12, disease of parts other than the nervous system, as a complication.

SALOL IN ACUTE TONSILLITIS AND PHARYNGITIS.

FEW diseases are more prevalent in our climate than acute angina. And while attacks of tonsillitis and pharyngitis are not to be classed with the graver affections, the amount of suffering and discomfort they entail often make them objects of serious concern to the practitioner. These inflammations are strictly self-limited, and generally subside without treatment in from three to seven days. Nevertheless, the means at our command to lessen the annoying dysphagia and other distressing symptoms are not as satisfactory as they might be, especially from the patient's point of view.

Salol has lately received some warm praises as a drug

that can be relied upon to favorably influence the course of these affections. Gouguenheim and Capart have pointed out its utility, and in our country Dr. Jonathan Wright, of Brooklyn (*The American Journal of the Medical Sciences*, August, 1890), speaks highly of the remedy. As salol is one of our newer compounds, Dr. Wright's brief synopsis of its properties and action may serve as a reminder here.

It was discovered by Nencki, a Swiss chemist, in 1883, and first used by Sahli in 1886. It is a colorless substance, sold in the shops as a coarse, white crystalline powder. It has a marked aromatic odor, and a faint taste, which is rather agreeable than otherwise. Chemically it consists of salicylic acid in which one atom of hydrogen has been replaced by the phenol group, and contains synthetically forty per cent. of the latter and sixty per cent. of the former. It is a proprietary article, made abroad, and usually sells at four dollars a pound.

It is insoluble in water, but, like the fats, is soluble in alcohol and ether, and is decomposed by sodium bicarbonate. Hence it should not be given in combination with the latter. It forms emulsions easily. Though crystalline in structure, it cannot be reduced to a fine powder, on account of the tendency of its particles to cohere. It has a low melting-point (43° C.).

It is insoluble in the gastric juice, but is readily dissolved in the pancreatic and intestinal secretions, where it is separated into its primary constituents, both of which are readily absorbed and appear in the urine, giving it the olive-green color caused by carbolic acid. In thirty-grain doses it is a powerful antipyretic, but in smaller and frequently repeated doses (five grains every hour) it is not so efficient in this regard. Its odor is very distinctly appreciated in the secretions and in the expired air.

The unique characteristic of salol in being able to pass the gastric juice unchanged, while in the intestines it is decomposed into phenol and salicylic acid, both being antiseptics, has been taken advantage of in treating the summer diarrhœas of children. The rapidity with which these drugs are absorbed, and the promptness with which they appear in the urine, have made it valuable in treating cystitis, pyelitis, and gonorrhœa.

It has been used as an antipyretic successfully. But its principal use has been as a substitute for the compounds of salicylic acid in the treatment of rheumatism.

It has proved of service in sciatica and lumbago.

The observations on its effects in allaying the pain in rheumatism are interesting in a consideration of its action on the dysphagia of acute throat affections, the time in which it is said to relieve the pain—twenty-four to forty-eight hours—corresponding very closely to the author's experience. Its occasional entire failure is also noted in both cases. The carboluria, which is always present, is the only sign of any phenol poisoning that is noticed, and need consequently give rise to no apprehensions.

In its administration he has never given less than sixty grains daily, nor more than one hundred and twenty, the most frequent dose having been ninety grains for adults. It may be given in powder form or as an emulsion. The most efficient method is to give it in ten-grain doses every two hours during the day.

He has noticed the most marked effect in lacunar tonsillitis, less in catarrhal pharyngitis, and least in a well-developed quinsy. For the latter, hot fomentations and free incision are the best remedies, though salol may be given as an adjuvant. This, of course, only applies to cases after the fourth day, before that time the greatest relief being often obtainable by the use of the drug.

Dr. Wright concludes by transcribing Gouguenheim's summary, which he indorses in every particular:

1. Salol acts beneficially in acute anginas of whatever cause.

2. It quiets the pain and dysphagia with the greatest rapidity.

3. In quieting the pain it may shorten the duration of quinsy.

4. It lowers the temperature.

5. In nearly all cases it diminishes the duration of the angina.

6. In order to attain these results, the dose should not be less than sixty grains daily.

THE KNEE-CHEST POSTURE IN THE CORRECTION OF SHOULDER PRESENTATIONS.

To the superficial observer it may seem that the field of every-day practical medicine has been so often worked over by industrious text-book writers that there is nothing left for the average doctor but to follow reverently and contentedly their infallible teachings. Now and then, however, the profession is startled by most unexpected and important discoveries in some obscure or neglected nook or corner, or by some valuable improvement upon the methods of the sages which is accidentally hit upon. Occasionally some new method of practice will be discovered, and reported again and again by soliitary workers for years before it is adopted by the standard authors and incorporated into the general body of professional knowledge.

A striking illustration of this fact is given by Dr. Wells (*American Journal of Obstetrics*, March, 1890, p. 286) in an article upon "Shoulder Presentations," in which he gives the history of the employment of the knee-chest posture in the correction of the malposition of the fœtus. It seems that this method was recommended as far back as in the beginning of the Christian era and that it was taught by various writers in the eighteenth century. That it has of late been forgotten or fallen into disrepute is possibly due to the ease with which versions can be done under chloroform or ether in the ordinary obstetric position.

It seems that in many cases, if not in all, in which the method was applied by one who had not been taught it, the knee-chest or knee-elbow position had been used, not with a direct view to the facilitation of version, but in order to moderate the excessive and dangerous contractions of the uterus or for the purpose of allowing a prolapsed umbilical cord to recede into the cavity of the uterus. When the posture had been assumed, the obstetrician found to his surprise and delight not only that the original object was secured but that correction of the malposition of the child's body was rendered very easy on account of the relaxation of abdominal and uterine pressure upon the child's body, and, through it, upon the lower segment of the uterus.

When the usefuluess of this posture has once been established it is easy to see how valuable may be its applications in abnormal presentations of all sorts. It may be used for reposition of the prolapsed cord, for correction of transverse presentations of side, shoulder, or hand, for relief of impacted parts—as shoulder, or head, and for the prevention of painful bruising of the lower segment of the uterus between the head and the pelvic brim. As has been suggested, many of these ends are now usually secured with ease by the induction of anæsthesia, but under certain conditions it may happen that anæsthesia fails or cannot be used, and in some cases it may be wise to make use of both anæsthesia and posture, in spite of the possible increase in danger from anæsthetizing in the knee-chest position, or perhaps in "Sims' position."

But, to return to the treatment of shoulder presentations. If the physician is summoned early to the case, and diagnoses this presentation, it is usually advisable to delay until the os is well dilated or easily dilatable. The patient is then placed upon her knees and chest or in any other position that will swing the uterus forward and away from its vaginal attachment. The hand is then introduced, the membranes are ruptured if still intact, and by pressure upon the shoulder from within, and upon the breech or head from without, the shoulder is pushed from the os, and the head is made to replace it. The woman is now raised upright upon her knees and supported in this posture until the head becomes fixed in its new position by a pain, and the woman is then allowed to lie in the customary position while the labor proceeds as a simple head-first case. In some instances the head cannot be brought to engage at the os and then the shoulder must be pushed in the opposite direction until the breech engages or a foot is brought down. In bringing the head or breech to the os, the fingers or hands need not penetrate deeply into the uterus, but in seeking the feet they must pass far in, as the long diameter of the uterus is increased by the posture of the woman.

The suggestions of Dr. Wells in this article are valuable as an important contribution to current methods. To what extent this method will supplant that of correction in the dorsal position under chloroform remains to be seen. It is more in accordance with present views that correction of the malposition should be made without rupture of the membranes. If the membranes have been broken, too, the knee-chest position is more favorable than the dorsal position to the entrance of air into the cavity from which the waters have escaped, an accident which may lead to the death of the child unless speedy delivery follows.

Hypnotism at a Revival Meeting.—A female revivalist has been conducting a series of meetings in St. Louis and has met with great success, her converts being numbered by the hundreds. Many of the latter have visions while under religious excitement, and some physicians have called on the authorities to prohibit the meetings, upon the ground that the converts are hypnotized. The complainants say that the revivalist is herself insane, and that the influence she exerts upon her hypnotized converts is exceedingly harmful, and they therefore ask the mayor to stop the proceedings on account of the injury to public health of which they are the cause.

News of the Week.

A Medical Candidate.—Dr. Alexander Bear, of Norfolk, Neb., is a nominee for Lieutenant-Governor of the State. Dr. Bear was born in Virginia, and is now about fifty years of age. He was a member of the State Legislature, occupying a seat in the Senate in the sessions of 1872 and 1873; also as a member of the House in 1876. He held the position of Regent of the State University from the year 1874 to 1880.

A New Hospital in Brooklyn.—The German Hospital Association was organized in Brooklyn about a year ago, the object being to establish a German hospital in that city. At a recent meeting it was announced that the Association had purchased twenty-seven building lots on Stanhope and Stockholm Streets, between Wyckoff and St. Nicholas Avenues, in the Eighteenth Ward, which were free and clear of all incumbrances, for a site for the new building. The name of the new institution will be the German Hospital of Brooklyn. Besides the usual accommodations for the sick, it is intended to set a part of the building aside for well-lighted and ventilated lecture-rooms; a chemical laboratory, fitted up with the latest improvements, and another devoted to histological researches; a number of recitation and operating rooms, and a suite of chambers intended for the private use of the members of the hospital staff.

Hypnotism in Russia.—The Russian Government has recently forbidden public *séances* of hypnotism, and the application of it to the treatment of disease is only allowed in the presence of several medical men.

Insanity in England.—The report of the English commissioners in lunacy states that the total number of lunatics, idiots, and persons of unsound mind under official cognizance in England and Wales on January 1st last was 86,067, being an increase of 1,727 as compared with January 1, 1889.

The New Surgeon-General of the United States Army.—The President has sent to the Senate the nomination of Colonel Jedediah H. Baxter, Chief Medical Purveyor, to be Surgeon-General of the Army. The appointment comes in the natural line of promotion, since he is the senior next in rank to the retiring officer whose place he is to fill. Dr. Baxter entered the military service in June, 1861, as Surgeon of the Twelfth Massachusetts Infantry. In April, 1862, he was transferred to the United States Volunteers, and at the close of the war entered the regular service with the brevet rank of colonel. In July, 1867, he was appointed Assistant Medical Purveyor, with the rank of lieutenant-colonel, and five years later was promoted to be Chief Medical Purveyor, receiving at the same time a colonelcy, and has held that office and rank ever since. The records of the department contain numerous references to Dr. Baxter's faithful and meritorious services, both during and since the war.

Unhealthy Schools in Philadelphia.—The sanitary committee of the Philadelphia Board of Health has been investigating the condition of the school houses in that city, and recently presented its report, showing that up ward of sixteen schools had been found to be in a more or less unsanitary state.

The Tri-State Medical Association will commence its second annual meeting in Chattanooga, Tenn., on Tuesday, October 14, 1890, continuing in session three days.

The American Association of Obstetricians and Gynecologists will hold its next annual meeting in the city of Philadelphia, on Tuesday, Wednesday, and Thursday, September 16, 17, and 18, 1890, in the hall of the College of Physicians, corner of Thirteenth and Locust Streets. All physicians interested are invited to attend the several sessions. Dr. William Warren Potter is Secretary and Dr. E. E. Montgomery President of the Association.

A Gift to a Medical College Questioned.—The relatives of Dr. Lomax, of Mattoon, Ind., are about to contest his bequest of his entire estate to the Indiana Medical College. The transfer of the property is by deed, and not by will, and the Medical College people are confident that they can retain possession of the gift.

The American Rhinological Association will hold its eighth annual session at Louisville, Ky., October 6th, 7th, and 8th. All leading subjects relating to nasal and naso-pharyngeal diseases will be opened for discussion by a leading fellow of the Association. The medical profession is cordially invited to attend. The Secretary, Dr. R. S. Knode, Omaha, Neb., will furnish any information to physicians desiring to become members.

Translation of Fränkel's Work.—Dr. J. H. Linsley, of this city, is engaged in the translation of Fränkel's recently published work on bacteriology.

Adoption of the Decimal System in Russia.—The Russian Government has ordered that all medical and pharmaceutical students shall be henceforth accustomed to the decimal system of weights and measures, with the view of making this system the only legal one for prescriptions to be written in after the lapse of five years, as it is intended to abolish altogether the use of the so-called Nurnberg weights, which are still in very general use in prescribing and dispensing. Soon Great Britain and the United States will be the only civilized countries on the globe where the old system of weights and measures is in use. It is strange that in this country, where decimal coinage has always existed, the adoption of the decimal weights and measures used by the rest of the world should be so long delayed.

American Orthopedic Association.—The following is the programme of the fourth annual meeting of this association, to be held in Philadelphia, September 16–18, 1890:

Tuesday, September 16th.—Business meeting for the appointment of committees, etc. Address by the President on "Spinal Distortions and their Treatment by the Straitened Leather Jacket," by Dr. Bernard Bartow, of Buffalo; "Treatment of Deformities of Spastic Paralysis," by Dr. E. H. Bradford, of Boston; "Tenotomy for Relief of Deformity in Spastic Paralysis," by Dr. Arthur J. Gillette, of St. Paul; "Amputation as an Orthopedic Measure," by Dr. Ap Morgan Vance, of Louisville; "A Ready Method of Counter-traction at the Knee," by Dr. Henry Ling Taylor, of New York; "Treatment of Infantile Club-foot Preliminary to Operation," by Dr. F. H. Milliken, of New York (by invitation); "Paralytic Club-foot," by Dr. W. R. Townsend, of New York; "Ten Years' Experience in the Management of Knee-joint Disease," by Dr. V. P. Gibney, of New York; "The Inefficiency of Mechanical Treatment in Spasmodic Wry-neck, with a Report of Three Cases," by Dr. George W. Ryan, of Cincinnati; "Sacro-iliac Disease," by Dr. Benjamin Lee, of Philadelphia; "Instantaneous Photographs Illustrating the Gait of a Child from whom both Hips had been removed," by Dr. H. M. Sherman, of San Francisco.

Wednesday, September 17th.—This day will be devoted to the subject of "Rotary Curvature of the Spine," when the following papers will be read: "The Nervous and Muscular Elements in the Causation of Idiopathic Curvature," by Dr. Benjamin Lee; "The Muscular Element in the Etiology," by Dr. Charles L. Scudder; "Etiology," by Dr. R. W. Lovett; "Mechanism of Rotation," by Dr. A. B. Judson; "The Mechanical Theory," by Dr. O. H. Allis (by invitation); "Causes," by Dr. M. T. Bissel (by invitation); "Pathogeny," by Dr. Newton M. Shaffer; "Treatment Especially Applicable to Poor and Dispensary Patients," by Dr. V. P. Gibney; "Treatment," by Drs. E. H. Bradford, B. E. McKenzie, and Henry Ling Taylor.

Thursday, September 18th.—"The Significance and Value of Involuntary Muscular Protection, and the Limp of the First Apparent Stage of Hip Disease," by Dr. Newton M. Shaffer, of New York; "Treatment of Hip Disease," by Dr. B. E. McKenzie, of Toronto; "A Report of Sixty-two Cases of Hip Disease Observed in the Practice of Hugh Owen Thomas," by Dr. John Ridlon, of New York; "Diseases of the Eye Associated with Spinal Caries," by Dr. James K. Young, of Philadelphia (by invitation); "Posterior Rachitic Curvature of the Spine," by Dr. Samuel Ketch, of New York; "Lateral Deviation of the Spinal Column in Pott's Disease," by Dr. R. W. Lovett, of Boston; "Relief of Paraplegia," by Dr. A. J. Steele, of St. Louis; "Prognosis of Pressure Paralysis," by Dr. T. Halsted Myers, of New York; "Do Orthopedic Surgeons Operate as Frequently as they Should?" by Dr. J. E. Moore, of Minneapolis; "Joint Diseases," by Dr. John Ridlon, of New York; Papers (titles not sent), by Drs. T. G. Morton, Roswell Park, R. H. Sayre, and H. A. Wilson.

The papers will be discussed by the following gentlemen: "Lateral Curvature," by Dr. George W. Ryan; "Deformities of Spastic Paralysis," by Dr. Roswell Park; "Amputation as an Orthopedic Measure," by Dr. L. A. Sayre, Dr. A. J. Gillette; "Ready Method of Counter-traction at the Knee," by Dr. R. H. Sayre; "Paralytic Club-foot," by Dr. H. Hodgen; "Treatment of Infantile Club-foot Preliminary to Operation," by Dr. J. C. Schaaps; "Ten Years' Experience in the Management of Knee-joint Disease," by Dr. Joseph D. Bryant, Dr. George B. Packard; "Treatment of Hip Disease," by Dr. J. E. Moore; "Value of Muscular Protection and the Limp of the First Stage of Hip Disease," by Dr. C. C. Foster; "Joint Diseases," by Dr. W. R. Whitehead; "Diseases of the Eye Associated with Spinal Caries," by Dr. H. E. Goodman; "Prognosis of Pressure Paralysis," by Dr. C. L. Scudder; "The Relief of Paraplegia," by Dr. C. W. Stimson; "Lateral Deviation of the Spinal Column in Pott's Disease," by Dr. Dillon Brown; "Posterior Rachitic Curvature of the Spine," by Dr. E. G. Brackett; "Sacro-iliac Disease," by Dr. L. A. Weigel; "Instantaneous Photographs, Illustrating the Gait of a Child from whom both Hips had been Removed," by Dr. George S. Knickerbocker.

Society Reports.

TENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Berlin, August 4, 5, 6, 7, 8, *ana* 9, 1890.

(Special Report for the Medical Record.)

(Continued from page 252.)

SECTION ON OBSTETRICS AND GYNECOLOGY.

FIRST DAY, MONDAY, AUGUST 4TH.

President's Address. — DR. A. MARTIN, of Berlin, opened the first session with a few words of welcome, in which he congratulated the members on the prospect of a brilliant meeting. There was, however, an embarrassment of riches in the way of papers, and it would be necessary to be very saving of time. He suggested that the time allowed for each paper be reduced from twenty minutes to ten, and that for the discussions from ten minutes to five. No objection being made, this rule was adopted.

Presiding Officers.—The following gentlemen were then elected to preside at the different meetings of the Section: Drs. Dohrn, of Königsberg, Halbertsma, of Utrecht, Péan, of Paris, Simpson, of Edinburgh, Parvin, of Philadelphia, Slavyansky, of St. Petersburg, Pasquali, of Rome, Stadfeldt, of Copenhagen, Chrobak, of Vienna, Fochier, of Lyons, Priestley, of London, Cushing, of San Francisco, and Winckel, of Munich.

Antisepsis in Midwifery.—DR. GALABIN, of London, had been appointed to open the discussion on this subject, but was prevented from attending and sent his paper, which was passed around in abstract among the members. He was an ardent believer in the efficacy of antisepsis, and insisted upon its being carried out with great thoroughness. The hands of the accoucheur and nurse, as well as the instruments used, should be rendered strictly aseptic, and vaginal injections of corrosive sublimate (1 to 2,000) should be freely employed.

DR. SLAVYANSKY, of St. Petersburg, read a paper on the same subject, giving an extended account of the success following the introduction of this method in Russia, in which country it was now universally observed. He had collected the reports of cases in over fifty institutions, and showed from them that the mortality among lying-in women had fallen from 0.48 per cent. in 1886 to 0.28 per cent. in 1889. The morbidity had also fallen, and was now but 6.9 per cent. He believed that, with strict attention to antisepsis, there was no more danger in large institutions than in small ones, and the former were to be preferred because of the educational facilities which they afforded. The presence of students need not be feared if only the antisepsis be carefully preserved.

DR. STADFELDT, of Copenhagen, said the introduction of antisepsis in midwifery had made it possible to turn the large lying-in institutions to account for teaching purposes without prejudice to the patients. Antisepsis was of great advantage to the new-born as well as to the women. In private practice midwives should keep their clothes, persons, and instruments thoroughly aseptic. They should not attend the woman after her confinement if she developed any puerperal disease. They should be careful to see that everything about the patient was rendered antiseptic, but he feared that vaginal injections in the hands of the ordinary midwife would be likely to prove more injurious than beneficial. Midwives ought also to abstain as far as possible during the progress of labor from making vaginal examinations. In case of puerperal disease developing, the health authorities ought to be at once notified, and should several cases of puerperal fever happen to arise in the practice of the same midwife, the latter must be forbidden to practise for a time.

DR. FRITSCH, of Breslau, thought that antisepsis had been overdone in the early days of its use in midwifery, but was glad to believe that there was at present much more moderation in its employment. He thought healthy women needed no local treatment, and even a mild grade of fever called for nothing more than watchfulness on the part of the attendant. In cases of very high temperature irrigation of the uterus was called for in conjunction with other treatment, though it could never be relied upon alone to reduce the temperature.

Bacteriology of the Vaginal Secretions.—DR. DOEDERLEIN, of Leipsic, had examined carefully the secretions from the vagina in lying-in women, and thought that the results were a strong argument in support of the necessity of antiseptic douches. He had learned to discriminate two varieties of secretion, one very acid and containing epithelial cells, granular corpuscles, and non-pathogenic bacteria. This was the normal secretion. The other variety of secretion was virulent, neutral, or alkaline in reaction, and contained globules of pus and micro-organisms of different forms, but especially cocci. In the first case no danger of infection through the vagina during labor is to be feared, but in the second most careful disinfection is urgently indicated.

DR. PRIESTLEY, of London, recalled the great mortality attending childbirth in certain institutions before the introduction of antisepsis, and thought that the change which had now taken place in this respect was argument enough in support of the measure. He was sorry, however, that Dr. Galabin had recommended douches of corrosive sublimate of the strength of one in two thousand, for he had seen serious results follow the use of such a strong solution. One to four thousand was, in his opinion, strong enough, and far safer.

SECOND DAY, TUESDAY, AUGUST 5TH.

Extra-uterine Pregnancy.—DR. LEOPOLD, of Dresden, presented a number of specimens illustrating various forms of ectopic gestation. One was a case of ovarian and another of tubal pregnancy, both carried to the ninth month without rupture. He also showed a lithopædion, resulting from ovarian pregnancy, and carried for twenty-five years before removal. Several others were cases in which rupture had taken place.

Frozen Sections from Labor at the Eighth Month.—DR. BARBOUR, of Edinburgh, showed some frozen sections and casts illustrating the progress of labor. One case was at the second stage with the child's head on the perineum, and showed the presence of a distinct retraction-ring. The muscular tissue above this ring was able to propel the fœtus, but when the latter had passed below this it was expelled by the action of the voluntary muscles. There was extension instead of flexion of the head of the fœtus.

Extirpation of the Uterus.—DR. OLSHAUSEN, of Berlin, reported several cases of extirpation of the uterus; one of these was for carcinoma, and although nine years had since elapsed, there had been no recurrence of the disease. He also showed a patient upon whom he had operated for tubal pregnancy, a living child being removed. Within a year the same woman became pregnant in the other tube, and was operated upon after the tube had ruptured.

Laparotomy during Pregnancy.—DR. CALDERINI, of Parma, reported three cases in which he had performed laparotomy upon pregnant women, in all of which the pregnancy had gone on to term without interruption.

Periodicity in the Physiological Functions of Women.—DR. DIMITRI V. OTT, of St. Petersburg, presented a communication on this subject in which he showed, as a result of numerous observations made by him on women and girls of different ages, that, in addition to the nervous phenomena observed in women at the menstrual period, there is a series of variations of normal functions appearing periodically in a typical form. The curves of temperature, muscular strength, blood-pressure, respiration, and nervous irritability all attained their maximum shortly before menstruation, sinking again to the normal after the menstrual function had begun.

Extirpation of the Uterus.—DR. JOHN WILLIAMS, of London, opened the discussion on this subject with a

paper on "Vaginal Hysterectomy in Cancer." In case of cancer of the fundus the indications for operation depend upon the size of the uterus and its mobility, the presence of adhesions, and the extension of the disease to neighboring or distant parts. In the case of cancer of the cervix and of the portio vaginalis the propriety of operation depends upon the pathological variety of the neoplasm and upon the physical condition of the patient. Before attempting an operation we must take account of the duration of the disease, its primitive seat, and its mode of extension. In cases in which supra-vaginal amputation has been performed we must be guided in our further course by the seat of the recurrence and its mode of development. In cases of cancer of the body coinciding with that of the cervix we must consider the origin of the disease, whether it is by simple extension or by metastasis, or whether there has been a simultaneous development at both points. It is impossible to determine from the statistics at present available whether or not the results after total extirpation are better than those after supra-vaginal amputation of the cervix, but the author regarded the latter operation as the most justifiable in the majority of cases of cervical disease.

DR. SCHAUTA, of Prague, thought that partial operations were not justifiable in those cases in which a more radical procedure was possible. He had come to this opinion as a result of numerous observations showing disease to exist in the body of the uterus when it had occurred primarily in the cervix. The extension of the neoplasm in depth constitutes one of the most important points in operative diagnosis, for when the disease has progressed so far that there is no hope of the patient being restored to health, an operation should not be undertaken. The mere fact of extension of the disease to the rectum or bladder is not in itself a contra-indication to operation, the sole element to be considered is the degree of involvement of these organs. In addition to malignant tumors, prolapse, fibroma, or recurring glandular metritis may in certain cases furnish an indication for operation.

DR. POZZI, of Paris, favored total extirpation of the uterus as soon as it had been determined that cancer of the cervix existed. He did not regard vaginal hysterectomy as a graver operation than amputation of the cervix, and thought it ought to be preferred, since it was impossible to determine clinically that the disease was limited strictly to the cervix. The operation should, however, be reserved for those cases in which the new-growth was limited to the uterus itself, for when other organs were involved the operation became so much the more grave and the chances of a recurrence were greatly increased. As to the technique of the operation, he strongly deprecated forced retroflection, because of the increased danger of infecting the peritoneum. Progressive ligature of the tissues is preferable to the forcipressure advocated by Péan, as it obviates the danger of wounding the bladder, urethra, or rectum.

DR. OLSHAUSEN, of Berlin, favored total extirpation in suitable cases, but the difficulty was that a diagnosis was usually made at a time when it was too late to gain much by the operation. He agreed with Pozzi in deprecating forcipressure.

DR. MARTIN, of Berlin, was in favor of total extirpation in cancer and other incapacitating affections of the uterus. He did not lay much stress upon the method of operation, the main point being the complete removal of the organ.

DR. PÉAN, of Paris, favored the operation in all suitable cases. He advocated strongly the practice of forcipressure, saying that he had had an extended experience with this procedure and that it had always given very satisfactory results in his hands.

The Causes of Rotation of the Fœtal Head.—DR. SCHATZ, of Rostock, read a paper on this subject. After reviewing the theories advanced by Nägele, Schröder, and others, he presented a statement of his own views, which were, in brief, as follows: The typical obstetrical pelvis was to be regarded as a canal of circular form, so bent that its entrance and exit planes were at right angles to each other. The deviation which race formation caused in this form was compensated for by the capacity of configuration of the fœtal head. Mechanically, the head was to be regarded as oval. The longitudinal axis of an oval body pushed forward in a narrow canal was synagonal with the axis of the canal. Now, how did the rotation take place? This followed from the eccentric insertion of the vertebral column in the head. This eccentric fastening held the head back, and the rotation of the head took place in consequence. So long as the uterus was shorter than the fœtus lying pressed together in it, the form-restoring power of the uterus acted as a forward-driving force.

DR. ZWEIFEL, of Leipsic, followed with a paper on "The Mechanism of Delivery," in which he gave his theory on the cause of rotation of the fœtal head. Dr. Pestalozza, of Pavia, exhibited an instrument for recording the fœtal pulse. Other papers were read by Dr. Küstner, of Dorpat, on "The Formation of Amniotic Bands;" by Dr. Neugebauer, of Warsaw, on "The Treatment of Chronic Inversion of the Uterus by Hydrostatic Pressure;" by Dr. Skutsch, of Jena, on "Measurements of the Pelvis;" by Dr. J. Stuart Nairne, of Glasgow, on "Causes of Incontinence of Urine in Women, and its Surgical Treatment;" and by Dr. J. Chalmers-Cameron, of Montreal, on "The Influence of Leucæmia on Pregnancy and Labor."

THIRD DAY, WEDNESDAY, AUGUST 6TH.

Treatment of Cystitis in Women.—DR. MORE MADDEN, of Dublin, read a paper in which he described a method of treatment of this distressing condition that had been very successful in his hands. The measures most commonly employed in such cases were merely palliative, and may relieve, but *per se* can never cure well-established cystitis in women. He was not aware of any method by which that could be accomplished save by giving the bladder absolute physiological rest. For this purpose Dr. Emmet's operation—*i.e.*, the establishment of an artificial vesico-vaginal fistula—may be successfully employed in some instances, but the practical objections to it were so great and obvious that for several years past he had abandoned this procedure in favor of another which was found more generally effectual, and quite free from the disadvantages of the operation referred to. His plan consisted, first, in the full dilatation of the urethral canal with the instrument exhibited, so as to paralyze the contractility of the sphincter vesicæ and canal, and thus produce a temporary incontinence of urine; and, secondly, in the direct application through the same instrument of glycerine of carbolic acid to the diseased endovesical mucous membrane. Any pain thus caused may be prevented by the previous topical application of a solution of cocaine, and the procedure recommended seldom requires to be repeated more than once or twice at intervals of a week or ten days. This treatment, combined with the internal use of boric acid, rarely failed to effect a rapid cure.

Drainage after Laparotomy.—DR. E. W. CUSHING, of Boston, read a paper on this subject, in which he recommended the use of drainage-tubes in the following cases: 1. When any condition was present which would lead to the belief that there would be for some time an oozing of bloody fluid, as, for example, when there had been a separation of extensive adhesions, when there was a thick pedicle, or when long incisions in the peritoneum necessitated the employment of many sutures. 2. When there had been an escape of much blood, or of urine, fæces, or the contents of a cystic tumor into the abdominal cavity. 3. When there had been a wound of the intestines or bladder, or when either of these organs was in such a condition as to suggest that subsequent perforation might occur. 4. When there was present an unyielding mass

of exudation substance preventing sinking in of the surrounding tissues, and thus favoring the accumulation of fluid. 5. When, for any reason, it was found necessary to terminate the operation speedily before the water could be all drained away from the peritoneal cavity. The speaker saw no special contra-indications to the employment of drainage after abdominal section.

DR. SAENGER, of Leipsic, followed with a paper on the same subject, in which he took the Continental view in favor of antisepsis and against the common employment of drainage in these cases.

DR. BOLDT, of New York, took a middle ground, believing that the measure was employed with too great frequency in America and England, but not often enough in Germany. He advocated drainage in cases in which pus had entered the abdominal cavity, as in difficult pyosalpinx operations, provided that the peritoneal cavity could not be satisfactorily washed out. He preferred a double-current drainage-tube.

DR. G. M. EDEBOHLS, of New York, exhibited a self-retaining vaginal speculum for use during examinations and operations in the dorsal position, and also an improved antiseptic lock for surgical instruments. He further showed a model of a table for use in antiseptic laparotomy operations.

Treatment of Obstructive Dysmenorrhœa.—DR. T. MORE MADDEN, of Dublin, read a short paper on this subject, and exhibited an instrument which he had devised for the rapid dilatation of the cervical canal. This instrument differed from other dilators in several respects, and especially in one which the author considered most important, viz., in producing expansion of the canal from within outward; in other words, in imitating the natural process of expansion from the uterine cavity downward to the os uteri; whereas most other dilators, such as Hegar's, etc., act in the opposite direction. In his own hands the utility of this instrument, the expansion effected by which may be measured by the affixed index, had been fully tested in a very large number of cases of sterility and dysmenorrhœa in hospital and private practice. The dilator, which does not occupy more room than the ordinary sound when introduced, may also be used, Dr. Madden said, with advantage for the dilatation of the female urethra in many cases in which this procedure is indicated.

Peritonitis from Rupture of an Ovarian Hæmatoma.—DR. H. J. BOLDT, of New York, reported a case of this accident in which recovery followed the performance of abdominal section. The patient was thirty-one years old, married ten years. Nine years ago she gave birth to a child at the seventh month, after a tedious labor, and ever since that time had had a constant backache and frequent abdominal pains, most intense over the left ovarian region. There was also intense dysmenorrhœa. The uterus was anteflexed, and the left ovary and tube were much enlarged and extremely sensitive to touch, so much so that their true condition could not be ascertained without anæsthesia. She was admitted to the speaker's hospital service a few days later, with a general peritonitis which gave the history of a sudden onset the day previous. Her condition, notwithstanding treatment, rapidly grew worse, so that he considered laparotomy to be the only possible chance. This was done while the woman had a temperature of 104° F. and a small, rapid pulse of 140. Recovery was prompt.

The interesting feature of the case was the almost fatal result from a hemorrhage from a spontaneous rupture of a hæmatoma not larger than a cherry. Dr. Boldt showed the specimens and entered into the etiology of ovarian hæmatoma, which he considered to be always preceded by an angiomatous condition. It is impossible to make the diagnosis of the condition, although it may occasionally be suspected from the history and physical condition of the patient.

Extra-uterine Pregnancy.—DR. BOILEUX, of Paris, reported a case of extra-uterine pregnancy terminating in spontaneous cure at the third month. The patient was thirty-four years of age and had been married thirteen years, having had one child at term and two miscarriages. She menstruated last early in March, and in April began to have an abundant bloody discharge, which continued, in spite of treatment, for about three weeks, rendering the patient very weak and exsanguious. The woman complained of a constant pain in the right leg. On examination the os was felt to be soft and patulous. The uterus was anteflexed, hypertrophied, and very immovable. To the right of the uterus and a little posterior was a small tumor, which to the touch resembled the bulging fœtal membranes during labor at term. A threatened abortion was suspected and the patient was put upon opiates. She remained in about the same condition for several weeks. Finally, toward the end of May, there was a very severe attack of pain in the right thigh, in Scarpa's space, and also pains resembling those of labor. Following this attack there was an expulsion per vaginam of a membrane which microscopic examination showed to be decidual. At the end of June normal menstruation returned. Mounted specimens of the expelled membrane were shown under the microscope.

FOURTH DAY, THURSDAY, AUGUST 7TH.

Induction of Premature Labor.—DR. THEOPHILUS PARVIN, of Philadelphia, opened the discussion on this topic. He had tabulated about one thousand cases of induced premature labor, showing the conditions which had necessitated it. Among these were albuminuria, diseases of the heart or lungs, uncontrollable vomiting, etc. The most frequent indication for the induction of labor was, however, pelvic deformity. It was difficult to decide as to the relative merits of this operation and of Cæsarean section in cases of deformed pelvis, and no hard and fast rule could be laid down, each case needing to be judged by itself, of no slight importance in the decision being the experience and skill of the obstetrician called upon to manage the case. In cases of nephritis or uncontrollable vomiting it was often a very difficult question to determine whether to induce labor or not. In many such cases the operation was of benefit, while in others it did a great deal of harm.

DR. MACAN, of Dublin, said that this question had changed somewhat since the introduction of antiseptics. In former years it was dangerous to the mother as well as to the child, but now it was, as a rule, no worse for the woman than an ordinary case of labor. If the labor was allowed to go on to term in cases of contracted pelvis, there would ordinarily be the question of perforation or of Cæsarean section. The latter operation was formerly very fatal to both mother and child, but now its dangers had been greatly diminished, and its performance often resulted in saving both mother and child. The life of the child should not be sacrificed lightly, yet it was the woman herself who should decide whether she would run any extra risks in hope of saving the unborn infant. Even induction of premature labor was not perfectly safe, for it was not always possible in tedious cases to insure perfect asepsis. In regard to the technique of the operation, he held that it was better to use no instruments or tents for dilating the os, the finger being in all cases far more safe, and in every way preferable.

DR. CALDERINI, of Parma, read a paper on the same subject, considering chiefly the indications for and against the procedure furnished by pelvic measurements. In the interests of the child, the induction of premature labor should not be entertained when the conjugate, in a rachitic pelvis, was under 75 mm. In non-rachitic pelves, induced labor, under antiseptic precautions, would be allowable up to 85 mm., or even a little more. By means of special precautions it might be possible to materially reduce the mortality of children born alive after induced labor. The employment of antisepsis had greatly diminished the risks of the operation to the woman. The

best way of inducing labor in cases of contracted pelves was the use of hot douches through a speculum, and the introduction of a bougie as far as the fundus. When labor was induced for visceral disease it was often necessary to add to the above puncture of the membranes.

The speaker presented the following table showing the results obtained by the various procedures employed in Italy in cases of retracted pelvis:

Operation.	Number of cases.	Mortality of the mother.		Mortality of the child.	
			Per cent.		Per cent.
Version	65	3	4.30	21	32.30
Forceps at the superior strait	193	14	7.25	45	23.31
Perforation	144	20	13.88	144	100.00
Cæsarean section (Porro)	59	19	32.70	9	15.51
" " (Sänger)	23	10	43.47	2	8.69
Induced premature labor	305	14	4.59	82	26.88
Symphysiotomy	23	3	13.04	5	21.74

In the interests of the child preference should be given to Cæsarean section, but the risk to the mother was still great, and, in practicable cases, induced labor should be preferred.

Dr. Dohrn, of Königsberg, agreed with the previous speaker as to the indications furnished by pelvic measurements. He thought the value of induced premature labor was in no way lessened by the better results that had been recently obtained by craniotomy and Cæsarean section, and induced labor would still remain an operation without a rival in a large proportion of cases.

SECTION ON INTERNAL MEDICINE.

First Day, Monday, August 4th.

The first session was held on Monday afternoon, and was devoted to the organization of the Section. The following honorary presidents were chosen to represent the different countries: England, Sir John Banks and Drs. Grainger Stewart and Pavy; France, Drs. Bouchard and Lépine; Italy, Drs. Bacelli and Cantani; Austria, Drs. Przibram and Schrötter; Russia, Drs. Kernig and Levasheff; Holland, Drs. Stokvis and Rosenstein; United States, Drs. Jacobi and Osler; Belgium, Dr. Crocq; Norway, Dr. Klaus Hansen; Sweden, Dr. Warfringe; Denmark, Dr. Trier; Switzerland, Dr. d'Espine; and Mexico, Dr. Carmona y Valle.

President's Address.—Professor Leyden, President of the Committee on Organization, then delivered a short address, extending a cordial welcome to the members of the Section. He spoke first of the potent influence of an international gathering of this kind in favor of peace between nations, and of a higher civilization which such peace must bring with it. Then he referred to the fact that, although there was now a strong tendency to specialization in medicine, yet there was all the more need of a central guiding hand, and this Section was that guiding hand, the mother of all the specialties, and the one who alone could gather together the results of the labors of all her children, and use them to the best advantage of all. He reminded his hearers that the object of medicine was not only to study disease by itself as a matter for scientific investigation, but also, and chiefly, to discover the means of relieving suffering, and curing the bodily ills of mankind. After drawing attention to the growing tendency to the employment of dietetic and hygienic measures in the treatment of disease, he closed his remarks with a few words of hearty welcome, expressing the hope that much good would result from the labors of the Section, which were now to begin.

Second Day, Tuesday, August 5th.

Treatment of Chronic Bright's Disease.—Dr. Lépine, of Lyons, opened the discussion on this subject. The danger of a chronic nephritis being the insufficiency of the renal secretion, the principal indication is to overcome this insufficiency. But in favoring increased secretion of urine care must be taken not to put too much work on the already diseased kidneys. On the other hand, it is necessary to keep up the nutrition. We must nourish the patient and stimulate the secretion of urine without irritating the kidneys—two indications which seem to be opposed, but which can yet both be satisfied. In the matter of food, we must diminish the amount of albuminoids relatively to the hydrocarbons and fat, since the waste products of the latter are not excreted by the kidneys. Although it is theoretically somewhat too rich in albuminoids, nevertheless milk is the best food for the patient with kidney disease. It contains no waste materials, and all the nitrogenous substances are utilized in the economy; it is rich in fats, contains nothing which can irritate the renal epithelium, and finally is diuretic. But it is usually impossible to keep the patient on a pure milk diet, and it will be found necessary to supplement it with digestible vegetables, bread, farinaceous foods, etc. It is, above all, important to attend to the condition of the digestive functions, since when the digestion is poor many toxic principles are formed which will serve only to irritate the kidneys. Although albuminuria is a symptom of transudation and apparently independent of the amount of secretion, yet we do not know what the relation between the two is, and it is therefore prudent to restrict the patient in the use of eggs, and sometimes of fish, if these appear to increase the amount of albumin excreted. To favor diuresis we may have recourse to slightly alkaline mineral waters, which sometimes are sufficient for the purpose. But when the diminished secretion is accompanied by signs of cardiac weakness we must employ heart stimulants. In the first rank of these remedies the author placed crystallized digitalin. This should, however, be given with great caution, and only every other day or even at longer intervals, in order to insure its complete elimination. Caffeine, in doses of at least fifteen grains hypodermically, was sometimes of service. Strophanthus should not be given, since it had a tendency to irritate the kidneys. Iodide of potassium, which is a diuretic, is chiefly indicated when there is arterio-sclerosis. The author was opposed to the employment of vapor-baths in cases of dropsy, fearing uræmia, but he always advised rest in bed, by means of which an even temperature of the skin could be maintained. Of course it was necessary to avoid all exposure to cold and wet. Uræmia was what every patient with chronic Bright's disease had most to fear.

Dr. Grainger Stewart, of Edinburgh, spoke particularly of the influence of climate upon sufferers from chronic renal troubles. He had seen two cases of albuminuria caused by residence in a malarious district. Patients should be very careful also in regard to clothing, being always warmly clad. In regard to diet, the speaker agreed with Dr. Lépine. He divided the different kinds of diet which he ordinarily prescribed into four classes, as follows:

Diet.	Albumin. Ounces.	Carbohydrates. Ounces.	Fats. Ounces.
1. Ordinary	4.665	10.65	3.32
2. Large	6.86	13.07	4.6
3. Milk	3.2	3.84	2.96
4. Low	2.494	16.06	2.202

He usually combined the milk with a low diet, obtaining better results thereby, as a rule, than with either separately. The first two diets on the list were only exceptionally admissible in cases of Bright's disease, since they would cause an increase in the amount of urea and albumin excreted. By the addition of lime-water or selters, the milk could be made more palatable and at the same time more digestible. He knew of no remedy for the disease. In cases of uræmia he recommended pilocarpine and hot-air baths, and when the pulse was very tense nitro-glycerine was of service.

Dr. Rosenstein, of Leyden, thought the greatest ad-

vance made in the treatment of this class of diseases was in the direction of improved hygiene and dietetic therapy. No medicines were of any benefit, except in the treatment of the complications arising during the progress of the malady. Even in the matter of diuretics in dropsy, it should be remembered that simple rest in bed was often sufficient to cause the disappearance of the fluid. The speaker protested against the use of calomel as a diuretic, for this drug was excreted with difficulty by the diseased kidneys, and might readily produce ptyalism or even gangrene of the mouth. He was not very partial to the indiscriminate use of milk, which often excited a mild form of gastritis, and also was so strong a diuretic that it frequently caused patients to rise at night, thereby disturbing the rest which was so necessary for them.

DR. SENATOR, of Berlin, agreed with the previous speakers as to the inefficacy of drugs in the treatment of chronic nephritis. The albumin often varied greatly in amount from day to day when no drugs were given, and it thus happened that certain remedies had acquired a reputation which they did not deserve, their exhibition having chanced to precede one of the accidental falls in the amount of albumin. In certain varieties of nephri tis dependent upon arterio-sclerosis, however, iodide of potassium was of real service. In patients suffering from arterio-sclerosis this drug should be given as soon as albumin appears in the urine.

DR. AUFRECHT, of Magdeburg, said that he had repeatedly tried the use of iodide of potassium in such cases, and had never seen the slightest benefit result from its employment.

Treatment of Phthisis in Institutions.—DR. HERMANN WEBER, of London, opened the discussion on this subject. After referring to the remedies usually employed in this disease, and which he regarded as useful only in the treatment of symptoms and as tonics, he said that it was not too much to hope that the time was not far off when some specific remedy would be found which would be capable of destroying the bacillus without working injury to the human organism. The main reliance in the treatment of consumption is to be placed upon a dietetic and hygienic regulation of the patient's life. Climate was not to be overlooked in the management of these cases, but it should be selected on correct principles. That climate was the best which would permit of out-door life, as a result of which the appetite was increased, the general health improved, and the respiratory and circulatory organs strengthened. Mountain climates possessed some advantages, but the treatment of phthisis could be carried out in any place where there was pure air and plenty of it day and night, where good food could be obtained, and where there was opportunity for the patients to take all the necessary exercise. The main point in the treatment of this, as well as of many other chronic disorders, was to maintain the general strength of the patient and to favor the proper performance of all his functions. This was to be attained only by a properly directed constitutional therapy. A patient with tuberculosis ought to be under the constant supervision of a competent physician, whose duty it should be to regulate every detail as to food, clothing, exercise, etc., watching the varying conditions of health of his charge, and adapting his daily prescriptions in these matters to the requirements of the case. It was here that the great advantage to a consumptive of residence in an institution lay, and to prove that such a view was not theoretical merely, the speaker instanced the benefits derived by patients in sanatoria such as Ventnor, in England, and the cottages at Saranac Lake, in the Adirondacks. The author dwelt upon the benefits that would accrue not only to the patients themselves, but also to the community, if a number of such institutions could be established for the reception of the poor. The results of hospital care would be not only the relief of much human suffering, but also the restoration of numbers of invalids to health, rendering them useful to their families and to the community as well.

DR. LEYDEN, of Berlin, said that he had listened with pleasure to Dr. Weber's address, and believed that it would do great good in giving an impulse to the movement, already noticeable in Germany, toward the establishment of sanatoria for the reception of the poor suffering from pulmonary tuberculosis. Undoubtedly the best treatment of consumptives could be carried out only in institutions of this kind, and even if the hopes of Koch as to the ultimate curability of tuberculosis should be fully realized, such sanatoria would still be necessary, at least for a long time to come.

DR. DETWEILER, of Falkenstein, was rejoiced to hear such plain words in favor of the hospital treatment of phthisis, and it might be said that the controversy concerning the utility of institutions of this sort was now closed, for the good results following their establishment were too evident to bear contradiction.

DR. PAUL KRETZSCHMAR, of Brooklyn, described the Adirondack sanatorium and other similar institutions in the United States.

DR. CANTANI, of Naples, said that he had long noticed the fact that rabbits inoculated with tuberculosis would resist the disease for a considerable time if they were well fed and placed where they could get plenty of fresh air and sunlight. He had also noticed that carnivorous animals resisted much better the action of the tuberculous virus than the herbivora. In the food of carnivora sodium salts predominate, while in that of herbivora there are more potassium compounds. This furnished a hint of some value in the therapeutics of consumption. In Italy there had for more than a century been institutions for the reception of consumptives, but these were rather places of refuge than hospitals. There had always been a popular belief in the contagiousness of phthisis, and for this reason the unfortunate without a home of his own could seldom find a place, and it therefore became necessary to establish institutions to harbor such patients. The existing refuges were, however, unsanitary to the last degree, and were little more than places to die in.

DR. TRIER, of Copenhagen, spoke of the hospitals for consumptives in Denmark.

DRS. FUERBRINGER, of Berlin, HANSEN, of Bergen, CUTTER, of New York, PHILIP, of Edinburgh, ROCHA, of Coimbra, and SCHROETTER, of Vienna, also took part in the discussion.

Intracranial Pressure.—DR. ADAMKIEWICZ, of Cracow, reported some experiments which he had made, which overthrew, he thought, the previously generally accepted mechanical theory of brain pressure. As soon as the intracranial pressure becomes greater than that in the veins of the skull, the fluid flows into the latter. If these are unable to carry off all the fluid, intravenous pressure rises, stasis ensues, and œdema of the brain is produced. It is this œdema which gives rise to the pressure symptoms, and the latter are therefore not the direct result of the increased amount of cerebro-spinal fluid.

DRS. EBSTEIN and NICOLAIER, of Göttingen, presented some urinary calculi formed of oxamid which had been obtained as a result of feeding this substance to dogs.

Operative Treatment of Serous Pleurisy.—DR. LEVASHEFF, of Kazan, recommended the withdrawal of a certain amount of the intrapleural exudate, and replacing it at once with an equal quantity of a solution of chloride of sodium. After this operation had been repeated from two to six times the pleural cavity would contain practically nothing but an indifferent salt solution which would be rapidly absorbed.

DR. FUERBRINGER, of Berlin, thought that the last speaker's experience only showed how much an inflamed pleura could stand in the way of trauma. He believed a simple puncture was all-sufficient in such cases, and it was needless to complicate it with injections of salt solutions or of any other fluid.

Treatment of Nocturnal Enuresis in Children.—DR. VAN TIENHOVEN, of the Hague, read a paper on this subject, in which he held that incontinence of urine in

children depends upon an insufficiency of the sphincter vesicæ muscle, which allows the urine to enter the upper portion of the urethra, whence it is expelled by a reflex action of the detrusor urinæ. The enuresis occurs usually during the first two hours of sleep, before it is ordinarily possible for enough urine to be secreted to distend the bladder. To prevent the incontinence the author recommended that the little patients sleep upon a bed raised at the foot, so that the urine should flow away from the neck of the bladder, thus taking away the source of the irritation. In fourteen children whom he had so treated in hospital practice a cure was speedily obtained without the use of any drugs, the only precautions being to see that the patient emptied his bladder thoroughly before retiring, and that he took no fluids for a time before going to sleep.

Pathology of the Abdominal Sympathetic.—Dr. Talma, of Utrecht, presented a communication on this subject, in which he traced the part taken by the sympathetic in the production of various diseases of the stomach and intestines, especially of gastric ulcer.

Bacelli's Sign.—Dr. Gaetano Rummo, of Pisa, reported a number of cases which he had examined to test the reliability of Bacelli's sign in the diagnosis of intra-pleural exudations. This sign consists in the fact that if, in case of an intra-pleural effusion, the whispering voice is heard by the ear resting against the abdominal wall, the effusion is certainly serous. He had satisfied himself that this sign was a reliable one. The conductivity of the thorax for the whispering voice was influenced solely by the number of corpuscular elements contained in the exudate, and not by intra-pleural pressure, the amount of fluid, or the condition of the pleural surface.

Dr. Bacelli, of Rome, expressed his satisfaction to learn that further tests had demonstrated the reliability of this diagnostic sign, discovered by him in 1875. Some confusion had arisen from this symptom being confounded with the sign called by Guéneau du Mussy "pectoriloquie aphone." The conductivity of pleuritic effusions for the whispering voice has nothing to do with true aphonic pectoriloquy.

BRITISH MEDICAL ASSOCIATION.

Fifty-eighth Annual Meeting, held at Birmingham, England, July 29, 30, 31, and August 1, 1890.

(From our Special Correspondent.)

(Continued from page 249.)

SECTION IN MEDICINE AND THERAPEUTICS.

Second Day, Thursday, July 31st.

Dr. Rickards, of Birmingham, in the Chair.

Localization, as an Aid to Diagnosis and Treatment, of some Forms of Headache.—Dr. Hewetson, of Birmingham, read a paper on this subject. The author mentioned that for the past fifteen years he had been working upon the subject of the localization of head pains. In 1884 he had noticed that astigmatism was a frequent cause of localized headache, and similarly he had begun to observe that each cause of pain seemed to have its locality in the cranium. Megrims, for instance, was often curable by getting the patient to make use of converging lenses. It was his observation that in numbers of cases where headache existed there was very little defect of vision present. For instance, a clergyman, who had passed with high honors in Oxford, recently consulted him for headache, and he found that this gentleman was highly hypermetropic. He had suffered much from headache and had been treated by all sorts of drugs. A suitable pair of spectacles, continually worn, cured the patient. The brother of this gentleman also suffered from extreme hypermetropia and was very neurotic in character. It was, the author maintained, very important to recognize defective vision as a cause of headache in childhood, for, if this were not done, the patient might suffer terribly in after-life from all kinds of ill-health. Some patients with defective vision suffered much from insomnia. In other cases headache was due to diseases of the teeth, even when the patient suffered in no way from toothache. The regions where pain was most notable in astigmatism were the frontal region, the top of the head, and the temporal fossa. This did not resemble the vertical headache noticed in anæmia. There was nearly constant pain, accompanied by sick headache. The spot in the temporal fossa was just at the outer part of the brow. In the case of decayed upper molars in a patient with two quiescent carious upper molars, the pain was localized in the frontal region. Decayed lower molars exhibited similar painful spots at the extremity of the eyebrow. When there were blows on the cornea with pieces of coal or iron the head pain was localized in the back of the neck. It was curious that myopia did not give much pain in the head. Hypermetropia caused far more. The spasm of a microscopical eye ("accommodation spasm") caused pain in the back of the head. In this case there was temporary astigmatism. It was, then, the astigmatic eye on the one hand and the hypermetropic eye on the other which were apt to be accompanied by constant headache. In one case of epilepsy and dizziness he had quite cured his patient by means of suitable lenses.

Dr. Drummond, of Newcastle, had for some time recognized that a large number of headaches were due to defects in vision, but the results of treatment based upon this experience had not been quite so satisfactory as he had expected. Perhaps the reason of this was that the spectacles had not been worn continuously by the patients, and he supposed that they should be worn constantly. Myopia did not produce headache so frequently as astigmatism did, or as hypermetropia. The headache of influenza was noticeable. It was all over the head and the scalp was tender. Chloride ammonium was a wonderful remedy in these cases. There was one point which must be mentioned and that was that we must recognize a neurotic condition in almost all headaches. For instance, patients with carious teeth might be entirely free from such headaches in some instances; whereas, in others, caries would cause great and terrible suffering.

Dr. Tyson, of Folkestone, said that he had seen many cases of frontal headache associated with myopia and with astigmatism. A member said that, as symptoms of a neurotic condition, it was well to examine the carotid arteries and their pulsation. In cases of neurasthenia there was a tuberosity of the carotid vessels, and the vessels were too round and had certain other peculiarities in such patients. There were also certain muscular symptoms of neurasthenia. After a fagging night a person might be called "seedy." This referred to a dark coloration around the orbit and to slight dropsical effusion under the sclerotic. It would be interesting he said, if oculists would inform the profession how many of their patients with hypermetropia and astigmatism suffered from headache. He said this because there was probably some other factor in the production of the headache besides the eye trouble, just as in the case of caries of the teeth, which caused so much agony in certain persons and so little pain in others, sometimes all the teeth might be carious and no pain exist.

Dr. Jones, of Southampton, would like to hear what effect the condition of the muscles of the eyeball had upon the production of headache. In his own experience myopic astigmatism was often accompanied by the severest form of headache. The continued use of glasses was of the greatest service in such cases. One difficulty he had found in getting such patients to wear glasses habitually was, that the patient did not see well when walking about, and was therefore unwilling to wear them until he gradually became accustomed to them, when he no longer felt afraid of them.

Dr. Hewetson, in reply, pointed to some other diagrams, which referred to frontal pain of nasal stenosis. This frontal pain was often accompanied by pain along

the nose. This condition of the nostrils was often of the gravest importance to the health of children. Such patients were the so-called "mouth breathers," who were incapable of breathing for a longer period than about twenty seconds through the nostrils. He referred to Dr. Lauder Brunton's localization of headache as connected with the teeth and eyes. That author localized the first class of pains in the temporal region and the latter class in the occipital region. He repeated what he had said at Glasgow, that the slight cases were by far the most troublesome, and caused the most mischief, because they were unrecognized. There were also the cases which were fitted with improper glasses. For instance, he had not unfrequently seen patients who, being myopic, had been using plus glasses prescribed for them by vendors of glasses. General neuroses were, far oftener than was supposed, due to optical defects. Myopic astigmatism was certainly a frequent cause of headache and vertigo and even might go so far as to cause attacks of "petit mal."

Typhoid Fever in Hindostan. — DR. HAMILTON, Brigade Major, of Lucknow, read a paper on this subject, in which he pointed out how important it was for all persons likely to practise medicine in tropical countries to be familiar with the symptoms of typhoid fever. Some persons thought that this disease had been only met with in very recent years in Hindostan, but he, Dr. Hamilton, thought that there was abundant evidence in disproof of this opinion. On the other hand, the mortality from this fever now far exceeded in Hindostan that of all other diseases even cholera. Relapsing fever had become very much less a cause of death since the use of quinine, and hence typhoid fever had become the most dreaded of all fevers in the East. To give an idea of its prevalence he would state that while in the United Kingdom last year there had been among the 101,000 troops stationed in these islands only 34 deaths from typhoid fever, nearly 1 in 33 of the troops in Lucknow had been fatally attacked by the disease, or 89 in 2,700 had died of the disease in twelve months. Such facts showed the extreme importance of the study and prevention of typhoid fever in India. The mere economical loss to the Government of India was very large from this disease. The patient was three months ill, and was unfit for duty for six months. Fifty deaths cost the Government no less than £10,000, and in four years no less than £27,000.

With regard to the causation of typhoid in Hindostan, there were, firstly, youth and the recent arrival of the soldiers to be mentioned. In Lucknow, sixty-five per cent. of the troops had resided less than two years in the country. Formerly, indeed, men were sent to Hindostan at the age of eighteen, and were there for twenty years. Heat acted in two ways on such persons. Firstly, by weakening the patient, as the temperature was often as high as 120° F. in the shade. Secondly, by causing rapid putrefaction. Locating troops in cooler parts of the peninsula was an excellent remedy. Over-stimulating diet was often a predisposing cause, as it was often digested with difficulty. Farinaceous diet was probably more easily assimilated than the tough steaks, washed down by beer which the troops were accustomed to. If the British troops were less conservative in their diet, it would doubtless be of service to them in Hindostan; but this was a matter in which little was to be hoped for in the way of change. Typhoid fever should be rare among the troops in India, if only they could secure the cleanliness around the barracks which prevailed within their precincts. With the dry earth system of closets, fecal fermentation as a cause within the barracks was out of the question, and the water supply also was most carefully seen to and was excellent. But, outside of the barracks, dirt reigned supreme. There was, indeed, no sanitation whatever in Hindostan, and the English soldier lived in oases of cleanliness in the midst of deserts of filth. Thus the young soldier was exposed to innumerable dangers. In the first place, the milk supply was horribly unclean. Even when the cows were within the precincts of the hospital, the native milkers were sure to mingle filthy water with it, and cause all sorts of dangerous epidemics in this way. The food bought in the bazaars was filthy, as were all the surroundings of these places, and the soldiers could not be prevented from frequenting them, and drinking lemonade and other drinks made with the most impure water. Government ought, of course, to have dairies of its own; but it was difficult to get such changes as this amounted to. The native cows were fed on all sorts of filth. Then, again, the plunge-baths used by the troops were emptied only once a month, and became sources of typhoid fever from the water into which the excretions of typhoid patients were sometimes poured. With respect to the symptoms of typhoid fever in Hindostan, they were almost identical with those familiarly seen in practice in England. Constipation, however, more frequently accompanied the fever than was the case in this country. The treatment was the same as it was at home; no special drug was used. In conclusion, Dr. Hamilton said that the subject of typhoid fever in Hindostan might now be considered of national importance, since so many young men, from the wealthiest to the poorest classes, left home to inhabit that country.

Entric Fever Increasing in India.—DR. RICKARDS, of Birmingham, said that the Section was indebted to Dr. Hamilton for his important communication, which had been full of novel truths to all who had listened to it. It seemed that, while the deaths from other fevers had gone on diminishing in India, those from enteric fever had gone on increasing in frequency. With regard to the causes assigned for this frequency, Dr. Hamilton had adverted to youth and recent arrival in the country as causes. Of course, the generally received opinion on this matter, which he shared in, was that there could be no such fever without its germ and that in addition to this germ there was needed a suitable nidus for it to flourish in. It was now generally admitted that no kind of fermentation would cause typhoid fever unless the germ were present also. When the young recruits arrived in Hindostan doubtless the state of their age and health rendered them very susceptible to the influence of the typhoid poison. Dr. Hamilton's description of the way in which milk was supplied to the troops was most important, and well explained the frequency of this disease, which was so often spread by impure water supplies. Water was the great carrier of typhoid contagion, and milk, because it was so often adulterated by such dangerous water as had been spoken of by Dr. Hamilton.

DR. DRYSDALE said that few topics could be more important to the British in Hindostan, and also to the natives of that immensely populous peninsula than this question of the increase of typhoid fever. The chief point in this matter was to become convinced that typhoid fever could never originate *de novo*, however filthy a population might be, unless some person with the disease came into the country. This had been clearly known to the medical professors ever since the work of Dr. Bancroft in 1812, who had shown that no amount of putrefaction or filth was capable of producing a fever, unless the germs of such fever were present. He pointed to the slave ships, which were filthy to the last degree, but which were never attacked by fevers, and to the putrefaction which was found in the underground huts of the inhabitants of Kamschatka, where, however, such diseases were unknown. He would like to know whether there was any history that typhoid fever had existed in Hindostan before the French and English went thither. He should presume that this was probably not the case, for in new colonies, such as Australia and New Zealand, the disease had often been clearly introduced by colonists. There was no use in going on with any discussion about predisposing causes until this point was fairly settled: and he considered that those who spoke of the *de novo* production of typhoid fever, small-pox, or leprosy were, whether in or out of the profession, most dangerous to the cause of hygiene and longevity. Heat, of course, might predispose to

fever of any kind, but no amount of heat, even 120° F. in the shade, would produce a single case of typhoid fever in one thousand years unless some patient suffering from the disease infected the water, air, or otherwise poisoned the system of his neighbors. He could not too strongly emphasize this opinion, because he was certain that if the authorities in Hindostan would act as if typhoid fever were a contagious disease they might free both the British and the natives from what was, he believed, a disease which had originated in Europe and been conveyed to Hindostan. On the contrary, if they went on debating the origin of this fever in filth they would lose time and the disease would spread as it had done throughout the whole of that most abominably filthy Eastern country. Dr. Hamilton had alluded to the high death-rate in the barracks in Dublin; and those who had visited that city some years ago with the British Medical Association would remember with horror the condition of the Liffey which ran close to their dismal barracks, and which was a disgrace to the civilization of the British islands.

Climatic Fever.—Sir William Moore, of Hindostan, said that if the old medical Indian officers were referred to, it would be seen that the fevers in that country were the same long ago as they were at the present day. Hewitt, in 1850, however, was the first writer on Hindostan to describe typhoid fever clearly. What was now styled enteric fever had, however, existed long before that writer. If enteric fever was considered a specific fever it was very difficult to account for the fact that in Hindostan it was not caused in the same way that it was in this country. The natives who removed the night-soil were not affected by typhoid fever. Kurrachee was a remarkably salubrious place, and yet there was much typhoid fever found there. He believed that many of the cases which were named typhoid fever were not that disease at all. There was in India a fever which had no special characters, and which had been named "climatic fever." In the case of many of the new-comers into Hindostan who suffered from typhoid fever it was their own fault that they contracted it. In the case of this form of climatic fever the mortality was by no means so large as it was the fashion to say it was.

Dr. Ferris, of Torquay, said that almost all persons now agreed that typhoid fever was a germ disease. The soil, however, on which the germ fell was of importance. In Hindostan the spread of typhoid was favored by a host of circumstances. The cows in that country were fed on all sorts of garbage, including the fæces of horses, and the milk was watered by the most filthy and polluted water that it was possible to conceive. Even supposing that the milk was pure, the water was horribly the reverse. He agreed with Sir William Moore that many of the cases which was spoken of as typhoid fever were not really cases of that disease at all. With regard to the exposure to the heat being a cause of typhoid in Hindostan, it was merely so because it weakened the patient.

Dr. Seymour Taylor, of London, said that he believed that diseases were apt to present a different aspect in different countries, just as animals did, of which there were different types in hot climates and in cold. Thus the typhoid fever of Germany appeared usually to be of a far graver character than that met with in London. The type of a fever might, indeed, vary in different epidemics. In some cases typhoid would be styled gastric, in others brain fever, etc. He was convinced that in this disease there was, first of all, a germ, and next a receptivity to be taken into account. He compared in this latter point the human race to an army shot at by a shower of bullets, which struck down some, while others escaped. In this way consumption also attacked the hereditarily weak, and those weakened by other causes, and spared the less receptive. The younger the patient the less he was able to resist the germ of typhoid. He believed that as a rule the contagion of typhoid was spread by fluids, but, at the same time, it sometimes was propagated by the air. In the case of a woman, who had been for six weeks in St. Thomas's Hospital, two beds off from a patient with typhoid fever, the disease was taken, and the patient died of it, in which instance he considered that she had caught it by means of the effluvia from the dejections of the typhoid patient in her vicinity. Typhus fever, he thought, might be generated *de novo*, but he doubted that typhoid could originate *de novo*. With regard to treatment, it was curious to observe how many of the patients in the London hospitals had constipation, as compared with patients treated at home. He attributed this principally to the treatment by means of milk, which article of diet tended to produce constipation. He had noticed how frequently relapses of typhoid fever occurred when the patients during convalescence began to take bread and milk. Bread was, he thought, a very dangerous diet in convalescence from such fevers.

Dr. Isambard Owen said that all were agreed that in typhoid fever there were germs. Like germs in the vegetable world, such might fall on suitable soil and flourish, or fall on unsuitable soil and die. Dirty surroundings, everyone allowed, were not conducive to health, and sewage-polluted water was certainly not a desirable drink. He proposed that the following resolution should be passed by the Section: "That the attention of the Parliamentary Bills Committee of the British Association be called to the evidence shown by Dr. Hamilton as to the lamentable frequency of typhoid fever in Hindostan."

This resolution was seconded by Dr. Suckling, and having been submitted by the Chairman, was carried unanimously.

Dr. Hamilton said no words of his could depict the foulness of the milk-supply to the troops in many parts of India. In one place which he inspected the cows were continually dying from pleuro-pneumonia; and, on entering the precincts of the cow-sheds, he found these on one side of a yard and the milkers' habitations on the other, the court-yard being covered with the dejections of the cows and the human beings crowded in a small yard. The water in which the pails were washed was in a corner of this foul yard, and into it ran the rain from the yard, carrying the fecal matter into this tank. The milk-pails were crusted over outside with filth, and the whole place was perfectly horrible to enter and to contemplate.

A member remarked that filtering water had no great advantage in many cases. Indeed, in some the filters might introduce disease-germs into water which had none previously. Nothing short of boiling all milk and water would free these fluids from the danger of conveying disease.

A member from Queensland, Australia, wished to hear from Dr. Hamilton his opinion as to the existence of typho-malarial fever. He was himself unable to say whether or not there was such a hybrid fever. Enteric fever in Queensland had many varieties. In response to a question from Dr. Drysdale, the speaker said that typhoid fever was usually brought to Queensland by passengers in ships from England, and not from other colonies.

Dr. Pilcher, of Boston, congratulated his old friend, Dr. Hamilton, on his admirable paper, which would certainly prove of great service to the nation. Many of the ablest men hesitated in pronouncing on a case of typhoid fever, which proved how difficult the diagnosis of that disease often was. He was of opinion that the earth at Lucknow might retain the germs in vitality and be a cause of new cases of the disease.

Dr. Hamilton, in closing the discussion said that, notwithstanding all that had been urged to the contrary, he was persuaded that typhoid fever might originate *de novo* from filth and heat combined. He noticed at Suakim, where 8,000 of the finest troops had been landed, no case of the disease had been generated on the voyage, but soon after residing there it appeared in a terribly fatal form. Now, the troops were picked men, but the soil got so full of fermenting fæces and such effluvia

arose that the disease was generated, he thought, plainly by the external circumstances alone. As Dr. Drysdale had remarked, scarlet fever would not flourish in Hindostan, but died out speedily when isolation was made use of. He could also corroborate the disgraceful state of the barracks at Dublin with respect to sewage and the high mortality of the troops when there. The natives of Hindostan, contrary to the opinion of some authors, suffered from typhoid fever. As to diagnosis, he had seen so much typhoid that he flattered himself he knew the disease when it came in his way. There was very little difference in its appearance in India from that seen in this country, and new medical men, on arriving in Hindostan, acknowledged this. Typho-malarial fever was not used in the nomenclature of the disease in Hindostan. In remittent fevers quinine was of service, while in typhoid fever it was of none. In the latter case the diagnosis became gradually cleared up, and was confirmed in fatal cases by post-mortem examination. Simple colic in Hindostan might raise the temperature to 105° F. In the hills the disease closely resembled its types in England.

Experimental Investigations into the Action of Chloroform and Ether was the subject of a paper read by PROFESSOR MCWILLIAM. In these experiments, made on cats, the animal was first of all anæsthetized and then a certain definite amount of air was passed over a drop or two of chloroform contained in a bottle, and pumped into the trachea. Three or four per cent. of chloroform vapor was thus used, and the degree of anæsthesia attained was tested by the conjunctival reflex. In the case of the heart in chloroform inhalation, it was found that there was a tendency to dilatation of all the chambers, which was not seen when ether was the anæsthetic agent made use of. Among the animals experimented upon death frequently occurred from the inability of the heart to carry on the circulation, although the respiration continued for a considerable time. In such cases the heart might still move a little, but its action as a pump had ceased. The fall of blood-pressure when chloroform was administered was protective, if taken in quickly; but in some cases the heart became rapidly affected and the animal died. In reply to a question by Dr. Drysdale, the author said that as far as it was possible to draw conclusions from experiments on the lower animals, ether seemed to be a much safer anæsthetic than chloroform. There was also a curious after-depression in the case of chloroform not met with when ether was used. The measurement of the dilatation of the heart was made by its action on a level resting on it when the chest was laid open.

Correspondence.

WHAT SHALL WE DO WITH LINGERING LABORS?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the Section of the British Medical Association on Obstetrics and Gynecology, a most interesting discussion upon the subject of "Management of Lingering Labor," a paper read by Dr. W. S. Playfair, brought out a striking variety of opinion concerning the use of drugs in this class of cases, which, Dr. Playfair was careful to explain in beginning, included only cases not attributable to mechanical obstruction, but simply due to uterine inertia. Dr. Playfair said that in his opinion, based on his own experience and corroborated by the views entertained by the authorities of the leading maternity hospitals of Great Britain, the use of ergot prior to the expulsion of the placenta was practically obsolete. He relies more upon position, pressure over the abdomen, and considers chloral hydrate of drugs the sheet-anchor, to be used up to the time the head presses upon the perineum. Then he uses chloroform.

Dr. T. More Madden said his practice was to use ergot in doses of three to four drachms in the beginning of the second stage of labor, and usually to supplement this with a hypodermic injection of ergotin. Dr. M. Cameron carries two-grain pills of opium in his pocket, and if any delay occurs gives a pill, which he expects will either put the patient to sleep for a number of hours or speedily terminate the case. Certainly a remarkable variance among authorities.

Very respectfully,
GEO. C. MOSHER, M.D.

BIRMINGHAM, July 30, 1890.

Navy News.

Official List of Changes in the Medical Corps of the United States Navy for the week ending August 30, 1890.

HOCHLING, A. A., Medical Inspector. In addition to present duties, ordered as President of Medical Examining Board at Philadelphia, convened by Department orders, June 9, 1890.

KENNEDY, R. M., Assistant Surgeon. In addition to present duty, ordered as member of the above Board.

OGDEN, F. N., Passed Assistant Surgeon. In addition to present duty, ordered as member of the above Board.

MCCLURG, WALTER A., Surgeon. Granted a month's leave of absence from September 1, 1890.

KERSHNER, EDWARD, Surgeon. Granted two weeks' leave of absence from September 1, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 30, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	38	11
Scarlet fever	15	1
Cerebro-spinal meningitis	1	0
Measles	58	8
Diphtheria	56	20
Small-pox	0	0
Varicella	2	0
Pertussis	0	8

The Effect of Iced Tea.—Dr. G. W. Barr writes, in the *Therapeutic Gazette*, that iced tea has none of the physiological action of theine if it is kept ice-cold for a short time. He says that he has known a man of nervous temperament, who is kept awake all night by a single cup of tea, to drink a half-gallon of iced tea during the evening and sleep soundly at his usual time of retiring. Others, made very "nervous" by hot tea, have been able to drink large quantities of iced tea with no appreciable effect. If the tea-grounds are allowed to remain in the liquid, the iced tea is usually kept long enough before drinking to dissolve more tannin than is usual in hot tea; hence the tea should be strained as soon as removed from the fire.

The Chinese now Believe in Vaccination.—The Chinese, who reject scornfully nearly every application of Western medical science, are, according to the Governor of Hong Kong, firm believers in the advantage gained from vaccination, and submit to the ordeal with a cheerfulness and philosophy which are characteristic of this wily oriental. Protection by vaccination is especially required in Hong Kong, owing, as Sir William Des Vœux points out, to the frequency with which small-pox is introduced by steamers coming from all parts of the world, and to its fatal prevalence when it has once obtained a footing.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 11.
Whole No. 1036.

NEW YORK, SEPTEMBER 13, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

FURTHER OBSERVATIONS UPON FOOT-AND-MOUTH DISEASE IN ITS RELATION TO HUMAN SCARLATINA AS A PROPHYLACTIC.[1]

BY J. W. STICKLER, M.S., M.D.,

ORANGE, N. J.

ON December 1, 1887, a paper upon the above subject was read in the presence of, and discussed by, the New York Academy of Medicine. Since that time I have obtained from Dr. M. K. Robinson, of Dover, England, additional statistics which he has secured for me at considerable personal inconvenience, and which are, I think, of sufficient interest to quote in connection with what has already appeared in relation to the matter under consideration.

First let me review enough of my former paper to present clearly the subject as we are now to consider it.

During the early days of February, 1884, a remarkable outbreak of sore throat occurred in Dover, England, which was due to the drinking of milk obtained from cows affected with foot-and-mouth disease. During the week ending February 9th two hundred and five persons were attacked with the disease. "The majority of persons who suffered during this Dover epidemic presented two prominent symptoms in common, viz., inflammatory sore throat, and enlargement of the lymphatic glands," but the lesions produced varied considerably in different cases. The vesicular eruptions were followed either by a raw red, œdematous appearance of the mucous membrane, or white patches, and the ulcers which supervened assumed in many instances a chronic character, with thick puckered edges, and were a long time in healing.

When the inflammation of the tonsils went on to suppuration recovery was much slower than after common quinsy, and the enlarged cervical glands remained tender, red, and swollen long after the throat symptoms had subsided, *resembling, in this respect, the sequelæ of scarlet fever*. (I am quoting now from Dr. Robinson's original paper on the Dover epidemic). Erysipelas and purulent formations were concomitants also of the epidemic. "In some instances the feet of those who suffered were swollen and painful, simulating rheumatism."

"A fatal termination resulted in the cases of two children, who had very bad throats and mouths, with the extension of the disease, in one case, to the respiratory tract, their deaths being, in the opinion of the medical attendant, due to the poisonous effects of the milk." "Two persons who labored under chronic kidney disease, were respectively attacked with sore throats and died on the same day; other people in the same houses suffering, also, from the epidemic sore throat." "A servant girl was attacked on February 4th with sore throat and pain in the limbs, complained on the 8th of great pain in the epigastric region, and dyspnœa. There was a purple-red patch on the left cheek, extending to the nose. At 3 P.M. on the 9th, she passed into a state of coma, and died at 4 P.M." Mr. Wood says this was an obscure case, but thinks it possible that it was one of blood-poisoning.

[1] Read before the Section on Diseases of Children, at the Forty-first Annual Meeting of the American Medical Association, held in Nashville, Tenn., May, 1890.

Being in England in 1886 to investigate this unusual epidemic of sore throat, and wishing, if possible, to learn what relation, if any, it bore to scarlatina, I went to Dover to consult with Dr. M. K. Robinson. He received me very kindly, and said he would go with me to the various homes where the disease had visited, that we might gain the desired information. The following *facts* were elicited:

1. That members of eight different families who had previously had scarlet fever, escaped the "throat epidemic," while all the other members contracted the disease, all alike having taken freely of milk infected with the contagium of "foot-and mouth disease." The number of those who escaped was 23 +. I say plus 23, because in the case of one family we were told that the father, mother, and servants escaped, the number of servants not being stated. Allowing the number of servants to be two, the whole number would be 25.

2. That of 183 persons who had the "throat epidemic," 16 had had scarlet fever.

3. That 4 of the 16 persons who had had scarlet fever had a mild form of the "throat epidemic."

4. That two of the affected individuals had scarlatina when young.

5. That none of the persons affected with the "throat epidemic" had contracted scarlet fever from natural, accidental exposure, between the time of having the "sore throat" and the date of my visit (1886).

At this point, and in close connection with what has just been stated, let me quote in extenso the paper recently received from Dr. Robinson, the one alluded to in the first few lines of this article It is as follows:

DEAR DR. STICKLER: I have at last been able to complete the further inquiry which you asked me to make, and beg to furnish you with the information sought for, which you may consider more complete than my previous communication to you upon the subject. The following summary has been compiled from statistics containing all the information procurable concerning the epidemic of 1884:

The number of cases of foot-and-mouth disease which came under observation during an epidemic of this disease at Dover, England, in 1884, was 205. The number of persons attacked who had previously suffered from scarlet fever was 23. The number of persons attacked who had not previously suffered from scarlet fever was 161. The number of persons who, having had scarlet fever and imbibed infected milk, escaped foot-and-mouth disease was 36.[1] The number of persons who had foot-and-mouth disease in 1884, since exposed to scarlet fever without contracting the disease, was 14.

With regard to the prevalence of the disease in Great Britain, it does not appear to have been worthy of recognition in our official nomenclature of diseases, and it has escaped notice by the leading authors of our text-books on medicine. When my interest in this disease, as developed in the human subject, was aroused, I had to resort to veterinary practitioners and veterinary works in order to obtain descriptions of the symptoms, and history of the malady. I am not surprised, therefore, that Sir James Paget should write to you to the effect that he was not aware of the existence of the disease when it fails to find a place in British nomenclature and teaching. It is

[1] This number includes persons other than families in which the disease broke out.

now twenty years ago, when Medical Officer of Health for the Borough of Leeds, that a distinct epidemic of this disease came under my notice. It was confined chiefly to children who had partaken of milk from cows suffering from this disease, and the symptoms in the human subject were most characteristic. Since that time limited outbreaks have, from time to time, come under my observation, which, although clear to my mind as to their nature and origin, were limited in point of number of cases on each occasion.

Then came the sudden and wide-spread diffusion of the disease in Dover, which, with considerable labor, I was able to trace so clearly to its source that I felt it my duty to bring the matter before the medical profession and place on record the facts then elicited.

When the history of this last-mentioned epidemic obtained notoriety from its publication in the daily papers I had many communications on the subject from persons who had evidently sustained practical experience of the disease, but the nature of which had escaped recognition at the hands of medical practitioners. Thus, Captain Reid, of Backsford House, Ashford, says in a letter to me: "Some few years ago, while staying at a fashionable watering-place, my children were poisoned from milk which I ascertained for certain was derived from a cow suffering from foot-and-mouth disease. I at once recognized the disease, because on a previous occasion five of my household had suffered from drinking the milk of a cow belonging to myself which was afflicted with the disease."

Another gentleman told me that, being thirsty, he went into his cow-shed and drank off a glass of milk just yielded from one of his cows, which he found afterward was ill at the time, and subsequently pronounced by the veterinary surgeon to be suffering from foot-and-mouth disease. This gentleman was attacked with bad mouth and throat. Another gentleman said: "When my cows suffered from the disease, my man, along with his wife and family, would persist in drinking the milk from the diseased animals, and they were all attacked with the malady. The Messrs. Crowhurets, veterinary surgeons, wrote me, saying that when attending upon animals suffering from foot-and-mouth disease, the attendants upon such animals had often complained of the same symptoms which were exhibited by the animals in question, etc.

The disease, as it occurs in animals, has been variously described as eczema epizootica, aphthous fever, epizootic aphtha and murrain, and is characterized by fever and a vesicular eruption in the cleft of the hoofs, or in the mouth, with extension into the throat and nostrils. Shivering, and a ropy discharge from the nose, are often noticed at the onset of the attack. When the vesicles are ruptured, ulcers form, or red spots, bare of epithelium, appear with the characteristic soreness which ensues.

The incubation period varies, but animals have been known to suffer twenty-four hours after exposure to infection. Various complications occur and erysipelas and pyæmia have been known to supervene.

The following characteristics were noticed in the human epidemic which occurred at Dover:

Shivering, followed by headache and fever, pains in the limbs, thirst, parched lips and a vesicular eruption on the throat and mouth. A common accompaniment was enlarged cervical glands; many had enlarged tonsils, in some instances proceeding to suppuration. In the *Veterinary Review*, vol. iv., p. 502, and vol. v., p. 187, will be found some evidence furnished by Dr. Balfour and Mr. H. Watson, on the transmission of foot-and-mouth disease by milk to man, and in the same periodical (vol. v., p. 81) Mr. Hislop records some instances of human beings taking the disease by inoculation.

Parkes, in his "Practical Hygiene," says: "There has been much discussion whether the milk from cows with foot-and-mouth disease causes affections of the mouth, etc., in human beings. There are some striking cases which seem sufficient to prove that diseases of the mouth, aphthous ulceration, general redness, diphtheritic-like coating and swollen tongue occur. In the "Proceedings" of the Royal Society for 1881 a new form of febrile disease is described by Dr. Evart, the propagating agent being milk from a dairy near Aberdeen. Gamgee, the eminent veterinary surgeon, says that the disease is communicable to man, as the history of the various outbreaks of disease undoubtedly prove. I have referred in detail to the above-mentioned symptoms as observed by reliable narrators, because I am satisfied that many ill-defined throat affections are due to bovine sources.

During epizootic epidemics I have again and again noticed the concomitant prevalence of aphthous affections and diphtheritic-like appearances, described often under the heads of follicular stomatitis and follicular tonsillitis.

Dr. C. Fox described a peculiar epidemic, characterized by inflammation of the tonsils, extending into the pharynx, and sometimes to submaxillary and cervical glands, and accompanied by yellowish patches on the throat.

This outbreak occurred in October and November, 1875, in a parish which differed from its neighbors in this, that the inhabitants were supplied with water from a stream polluted at various parts of its course by the drainage of farm-yards, the inference being, that the specific poison was derived from the infected excretions of cattle.

That some intimate relationship exists between scarlet fever and diphtheria appears to be extremely probable, my own view being, that diphtheria can be produced by the pabulum on which the scarlet fever poison exists, during the interval between its passage from one human subject to another. I have known instances where diphtheria has broken out at isolated spots in the country when, after diligent search, no exposure to any previous case of diphtheria could be traced, but where I know that scarlet fever had previously occurred, and that those who suffered from diphtheria had been exposed to exhalations from scarlet fever infected excretions. Again, it is the custom in many parts of England to cart town refuse and garbage into the country, and there may be witnessed the disgusting spectacle of swine feeding upon the scavenger's motley collection, including, as such heaps do, not only decaying vegetable and organic matter, but rags and poultices from hospitals and sick-rooms.

Many times has swine fever (which some maintain is allied to scarlet fever) broken out among pigs kept as above described, and I have also noticed that in the same locality the swine fever has been accompanied by foot-and-mouth disease among the cattle, but what is far more important, human beings that have consumed milk from the infected cattle have suffered from diphtheritic-like affections of the throat.

It is a striking fact, that in localities where foot-and-mouth disease has prevailed there also has there been a large development of diphtheria or its congeners.

The cases of foot-and-mouth disease officially reported in England increased from 37,000 in 1882 to 461,000 in 1883, and following this enormous increase of the epizootic disease there was a large increase in diphtheria, the number of deaths alone from this disease in England and Wales during the first quarter of 1884 being 1,270, and the death-rate from the malady higher than that recorded in any quarter of the previous fourteen years. The above observations I have not published, but you are at liberty to make any use of them you think proper.

Believe me yours faithfully,

M. K. ROBINSON.

In immediate connection with this letter, and the statistical table already given, let me call your attention to the facts concerning an outbreak of foot-and-mouth disease in Bethersden, England, in 1884. They are as follows in tabulated form, namely:

No. of cases.	Age.	Scarlet fever previously.	Scarlet fever since.	Remarks by Dr. M. K. Robinson.
1	8	0	0	Members of same family.
2	10	0	0	
3	18	0	0	
4	6	0	0	Members of same family. Four other members, who had previously had scarlet fever, escaped epidemic of sore throat.
5	8	0	0	
6	5	0	0	Same family. Cases 7 and 8 mild sore throat (Dr. Robinson), probably modified by previous scarlet fever.
7	7	1	0	
8	9	1	0	
9	3	0	1	Very slight case of scarlet fever last year.
10	8	0	0	Same family.
11	2	0	0	
12	1	0	0	
13	9	1	0	Same family. Case 13 mild case of scarlet fever. No doctor employed.
14	7	0	0	
15	11	0	0	
16	9	1	0	Same family. Case 16 mild case of scarlet fever.
17	2	0	0	
18	12	0	0	Same family. Three other members of this family, who had previously had scarlet fever, escaped throat epidemic.
19	5	0	0	
20	4	0	0	
21	2	0	0	Same family. Case 22 mild throat case.
22	22	1	0	
23	6	0	0	
24	7	0	0	
25	7	1	0	
26	8	0	0	
27	6	0	0	Case 28 said to have been mild. No doctor.
28	9	1	0	
29	9	1	0	Case 29 mild throat case.

We learn from this table: 1st. That two members of one family who had not previously had scarlet fever developed the foot-and-mouth disease, while four other members who had previously had scarlet fever escaped. 2d. That three members of another family who had not previously had scarlet fever contracted foot and mouth disease, while the three other members who had had scarlatina escaped. 3d. That but one person developed scarlatina after having had foot-and-mouth disease, and that attack was very mild. 4th. That persons who, having had scarlatina, contracted foot-and-mouth disease had the latter affection very mildly. 5th. That these individuals developed the foot-and-mouth disease as a result of exposure to manure derived from cattle affected with aphthous fever.

As supplementary evidence in favor of the prophylactic power of foot-and-mouth disease against scarlatina I will re-state the facts concerning three children whom I inoculated with the virus of foot-and mouth disease.

Case I.—M. M- -, about eight years of age; had never had scarlet fever. On January 12, 1884, I injected under the skin of his arm a small quantity of virus taken from a cow having a mild attack of foot-and-mouth disease. A short time thereafter the cervical glands became enlarged and tender to the touch. There was no marked systemic disturbance, neither was there any sore mouth or throat. All signs of glandular enlargement and tenderness had disappeared in six or seven days. He was then taken to a house in which there was a boy sick with scarlet fever. The disease was in the desquamating stage and the throat still sore. His parents being poor, the pillow upon which the patient lay had not been exchanged for a clean one since the beginning of the sickness. This pillow was placed upon the face of the boy who had been inoculated, and held there some time. He was then made to inhale the breath of the patient, and afterward to remain some time in the sick-room. The boy did not develop scarlatina after having been thus exposed, neither has he contracted the disease since, although there has been opportunity for infection.

Case II.—B. P——, four years of age; had never had scarlet fever. On March 6, 1884, I inoculated her in the arm with a small quantity of foot-and-mouth virus. On March 13th her temperature rose to 103° F. Her mouth was sore without showing any vesicles, and she complained of a pricking sensation in her throat. She had slight headache, the appetite was impaired, and she was quite peevish. There was no eruption at any point on the body. By March 20th she was well. She was then taken to a house where I had a patient in the desquamating stage of scarlet fever. The patient was very sick at the time, because of complications; indeed, was so ill that I was somewhat doubtful about the issue. The same plan of exposure was adopted as in the first case, except that I could not get the inoculated child quite near enough to the patient to inhale her breath; but the "pillow exposure," and the length of time she remained in the sick-room, afforded a good opportunity for infection. She did not subsequently develop scarlet fever.

Case III.—J. M——, about ten years of age. Had never had scarlatina. I inoculated him just as I did the first two. He did not afterward develop any systemic disturbance or local lesion. After a lapse of three years, with opportunity for infection, he tells me he has not had scarlatina.

These cases, taken in connection with the others, suggest gratifying results should further inoculation be made.

In one of my note-books I find this entry, namely: "Thursday, August 19, 1886, went with Dr. Robinson to Canterbury, England, where we saw the health inspector, who told us that in one family the foot-and-mouth disease attacked only those members who had not had scarlet fever. We found four persons suffering from the epidemic sore throat who had had scarlet fever."

Without commenting now upon what has thus far been stated, I will describe somewhat briefly (quoting Professor Walley) foot-and-mouth disease as it affects animals.

Synonyms. — Murrain, eczema epizootica, distemper, epizootic aphtha, vesicular aphtha, vesicular epizootic, aphthous fever.

Definition.—It is a vesicular eruptive, or exanthematous affection, due to a specific ferment, and having its lesions localized in the skin and mucous membranes.

Characters.—Eczema epizootica is probably indigenous in the bovine tribe only, but there is no direct proof that it may not originate in the ovine species also. It readily attacks sheep, goats, swine, and poultry; it is easily transmitted to the human subject, and it has been described as existing in the horse, the dog, wild-fowl, deer, wild boar, etc. Walley says little or nothing is known of the ferment of this disease. Dr. Klein, of London, says the disease is caused by a micrococcus which forms in artificial media, besides dumb-bells (diplococcus), beautiful chains (streptococcus). These differ in length according to the number of micrococci composing them, the short chains being a linear series of four, six, or eight micrococci; the longer ones, of more than eight up to thirty and more micrococci. The longer chains are always curved, and even convoluted.

In different outbreaks it localizes itself mainly in the feet, the udder, the mouth, the skin, and mucous membranes, respectively. One attack does not give immunity from others; and not only may an individual animal suffer several times from it in the course of its life, but even twice or thrice in a season, though in a great majority of cases each successive attack becomes milder in its character. Dr. L. McLean, Government Veterinary Surgeon, says, "In the bovine species one attack of foot-and-mouth disease does not give immunity from the disease; but in the ovine species it does."

The channels by which nature endeavors to eliminate the poison, are the salivary and mammary glands, the mucous glands of the bronchial and intestinal mucous membranes, and the skin.

The effects of the poison on the skin are invariably well marked, desquamation of the cuticle being extensive; but while this is a common characteristic of many zymotic diseases, it nevertheless points to the necessity of encouraging the elimination of the poison by this channel.

Period of incubation is, compared with other zymotic affections, short, viz., from twenty-four hours to three weeks. The average is from two or three to five or six days.

Invasion is, on the whole, rapid and pronounced, the

manner of invasion depending upon the amount of poison received into the system, the condition of the host, and the surrounding circumstances.

Duration is variable, and is regulated by the intensity of the attack and the care which is bestowed upon the patient; from ten to twenty-one days may be looked upon as the average period of duration where the disease runs a regular course, and is not succeeded by important sequelæ.

Fatality depends largely upon the character of the outbreak; in some seasons death in any animal is rare, while in others great numbers succumb to the primary effects of the disease.

Propagation.—It is propagated by direct and mediate contagion, as the virus is both fixed and volatile, but it is only diffused through the medium of the atmosphere at comparatively short distances. As the saliva, the nasal, conjunctival, and intestinal mucus are highly charged with the virus, it is readily spread by the conveyance of these secretions to healthy animals, by many direct and indirect means.

Symptoms and Course.—The symptoms must be divided into general, constitutional, and local.

The premonitory constitutional symptoms are identical with those of other zymotic diseases. These are isolation, usually very marked; arched back in cattle; tucked up abdomen; muscular twitchings or shiverings, more or less severe; erection of the hair, the skin being hot and dry; and stiffness of gait, which is most pronounced when the feet—and particularly so if three or the whole — are affected.

Bowels usually a little constipated; urine sometimes scanty, high-colored, and laden with solids, especially as the disease advances; at other times it is profuse and limpid. There may or may not be mucous discharge from the eyes and nose, with increased lachrymal secretion from the former. In young animals, exposed to inclement weather, such discharge is very constant, and in the course of a few days that from the eyes forms a yellow accretion at the inner canthus of the lids and down the sides of the face, a similar accretion being formed by the nasal discharge round the edges of the nostrils.

Under exposure, an irritable bronchitic cough is present, by localization of the lesions in the bronchial mucous membrane. Temperature always elevated to the extent of 2° or 3° F. The pulse and respiration may not be much disturbed. Appetite indifferent when invasion is rapid and the fever high, or the stomach and bowels affected; in ordinary cases, a desire for food is evinced, even though the lesions in the mouth are extensive. In ruminants, rumination is performed naturally, unless the mouth is much affected. In milch animals, interference with the lacteal secretion will be largely regulated by the localization or non-localization of the lesions in the udder. As the disease advances the phenomena above enumerated increase in intensity, and continue to do so until the climax—which may be calculated at from the third to the seventh day—is reached, after which they gradually subside. In addition, vesicular and pustular eruptions may appear on the skin of different parts of the body; they are most often seen in the pig, and the primary may be succeeded by secondary and even tertiary crops.

Jaundice is a very frequent concomitant. Desquamation of the cuticle is an invariable accompaniment of convalescence, the skin being covered with abundant bran-like scales of a yellow color; it is also extremely irritable, animals rubbing against prominent objects vigorously. If the lesions are localized in the gastro-intestinal mucous membranes, colicky pains are induced.

The local lesions are, so far as the skin is concerned, usually seen in parts devoid of hair, or where it is delicate, as the feet, the mouth, the udder, and in some cases the vagina of the female, and the sheath of the male. In all animals the earliest pedal sign is lameness, more or less sudden and severe, with uneasy movements of the limbs. In the course of a few hours, subsequently to the advent of the lameness the vesicular eruptions characteristic of the disease appear. The pedal vesicles are bladder-like elevations, varying in size from a hazel-nut to a walnut. If allowed to remain undisturbed, the vesicles burst in from three to twelve hours and discharge a limpid, colorless, or pale straw-colored fluid; the jagged edges of the lacerated epidermis become retracted and slightly everted, and form an irregularly raised white boundary around the margin of the resulting sore. The cutaneous structure which is exposed by the eruption of the vesicle, is of an intensely scarlet color.

The advent of the mouth lesions in cattle is marked by smacking of the lips, or rather the mouth; by dribbling of the saliva, and by partial or total inability to masticate. The mouth vesicles vary in size and character according to the part of the buccal membrane in which they are located. The pad vesicles appear as flattened elevations of the epithelium, without areolæ around their bases. On the tongue the vesicles are much longer than elsewhere. They vary in number from one to five, and are very resistant. They present much the same character as on the pad. Two or three may coalesce and form one very large vesicle. On the inside of the cheek the reddened condition of the mucous membrane is more discernible, and the resistance of the vesicles considerably diminished. On the lower lip vesication in ordinary cases is comparatively infrequent. The vesicles when they appear are much smaller. On the skin outside the lips vesicles are rarely seen. More frequently secondary than primary, are small and succeeded by pustules and scabs.

In the course of a few days the epithelium will be so far restored as to form a perfect coating over the inflamed tissues. In the cow vesicles usually appear a few hours after the premonitory signs of the disease on the body and around the apex of the teats, but they may be developed in any part of the udder. At first they are discrete, but frequently become confluent. They vary in size from a three-penny piece upward. The period of vesication will vary from one or two to about thirty-six hours, depending upon amount of friction and pressure to which they are exposed. The exposed epidermis, after rupture of the vesicles, is intensely hyperæmic; but if the parts are undisturbed it quickly becomes covered by inspissated pus, coagulated lymph, and epidermic cells—the hair, when present, assisting in forming a coherent brown-colored scab, which has usually irregular edges, and varies in thickness.

The substance of the tongue is usually much more flaccid than normal, and if the papillæ are carefully examined it will be found that, in the earlier stages of vesication, they are much congested, subsequently becoming atrophied and shrivelled. It sometimes happens that when the tongue is seized to explore the mouth large patches of epidermis come away in the hand, as if the tongue had been boiled. This occurs in the aphthous stage, when the vesicles have ruptured, and, the epidermis being removed, erosions appear (Fleming).

Thus far I have simply stated facts, such facts as should receive the most earnest attention of the profession. I make this statement without apology, because I am satisfied that when a disease failed to attack every member of eight different families who had previously had scarlet fever, and attacked every other member who had not had scarlet fever there was some good reason for it—that reason apparently being, not coincidence, but the protective influence of the one disease against the other. Further, not only was this true of eight families in Dover, England, but of two families in Bethersden, England. Again, there were other individuals who, having had scarlatina, escaped the throat epidemic, and as already stated when the "throat epidemic" occurred in those who had had scarlatina, it was mild in character, and in the one instance in whicl. scarlatina occurred after the epidemic sore throat it was a very mild attack. Here again there must be some reason for the mildness of one disease when appearing after the other in the same individual.

Thomas, in his article on scarlatina, says: "Soon, per-

haps already on the second or third day, the entire coating of the tongue with the superficial layers exfoliates, either at once or in successive sections, in a manner found in no other disease." Now here is a disease in which this very thing does occur, as already stated on the authority of Fleming. In both the papillæ of the tongue are swollen and prominent. In both there is abundant desquamation of the cuticle. Sometimes in scarlatina ulcers occur upon the tongue, cheeks and gums, as in foot-and mouth disease. Foot and-mouth disease frequently attacks cattle more than once. Sheep on the other hand do not so commonly have a second attack.

In the case of scarlatina Thomas (Ziemssen, vol. ii., p. 186) says: "As a general fact, it cannot be disputed that scarlatina belongs to that class of diseases which occur but once; nevertheless exceptions appear to be of comparatively frequent occurrence." He then says he collected, in the literature to which he had access, about two hundred cases of a second infection, besides a few reports of a third and fourth infection in the same individual. Murchison observed relapses of scarlatina in two sisters. Trojanowsky says "in two of his cases of secondary scarlatina both parents had also had the disease twice, and in a third case the father had been affected twice." Richardson states that he has experienced scarlatina in his own person three times. Sir Robert Gillespie tells of a young lady who had scarlatina three times, the diagnosis of which was unequivocal (Ziemssen, vol. ii., p. 191). Henrici, during the epidemic of scarlatina in Kiel, from 1797 to 1798 attended a woman who was then undergoing her seventeenth attack of scarlatina with all its symptoms (Ziemssen, vol. ii., p. 192). The latter statement may be exaggerated. Dr. Edward J. Ill, of Newark, N. J., writes me as follows concerning some of his own patients: "One of my patients, six years old, had an attack of scarlatina in 1881 In 1883 she had another attack. In January 1887 a third attack. In 1888 she had a fourth attack. Desquamation followed in each instance." Another case, J. G——, aged twelve years, had scarlatina in 1888; had a prior attack in 1881.

The tendency to suppuration of the tonsils and the continued enlargement of the cervical glands in persons who had the foot-and-mouth disease suggested a resemblance of the two diseases (scarlatina and foot-and-mouth disease.) A consideration of the above inclines one to the opinion that the two diseases under consideration may be more closely allied to one another than has heretofore been supposed to be true, and that it is probable that an individual who has had one disease, either will not contract the other on exposure or will have it in a very modified form if he contract it. Dr. Robinson, in a personal letter to me says, "As to the prophylactic power of one disease against the other, my own view is, that if persons who have had one disease and are exposed to the other suffer from the alternate one they do so in a mild form. If there is some intimate relation between the two maladies, it is fair, I think, to assume that persons who have suffered from one form are less susceptible to the other. I do not think I mentioned in my former communications, as evidence of the relation of the two diseases, that in the county of Norfolk, during a period of great prevalence of foot-and-mouth disease among cattle in 1883, there was a great increase of scarlet fever, and especially a scarlatinal sort of sore throat. This fact was stated in the House of Commons during a discussion of the Contagious Diseases (Animals) Bill on March 18, 1884, and reported in the daily papers the following day." Professor Law said, in discussing my former paper: "Epizootic foot-and-mouth disease had at times attacked nearly all the cattle and the people of Great Britain, and considering the fact that the disease was so prevalent, there should be less scarlet fever in Great Britain that in America, where the foot-and-mouth disease is comparatively unknown."

Sir James Paget, in a letter to me upon this point, says: "I have not seen or heard of foot-and-mouth disease communicated to persons in this country." I have asked some of those likely to have known of such cases if they had occurred, but I have learned nothing from them.

Professor Thomas Walley, of the Royal Dick's Veterinary College, Edinburgh, Scotland, says in a communication to me, "Very few people contract eczema" (foot-and-mouth disease). Professor E. Klein, in speaking upon this same matter, says: "My dear sir, In answer to your letter of October 29, 1889, as to whether many of the people of Great Britain have had foot-and-mouth disease, I must say that during the nineteen years that I have resided in this country, I have heard of some outbreaks of foot-and-mouth disease among the people in various localities, but they were always localized and did not involve many cases. I must say that I have never been more surprised, than when you told me in your letter that Professor Law offered the remark, that many persons in England have had foot-and-mouth disease. As a matter of fact, the contrary is the case. During the last four or five years, I have not heard of any appreciable amount of foot-and-mouth disease; in fact, I do not think there has been any epidemic of it. I have made inquiries of several friends in the country, and I hear from them that many practitioners have never seen a case in the human, in fact some in practice during the last four years did not know it to have occurred in a single instance in their districts. Only a few weeks back, I had a class in bacteriology at which were twelve gentlemen, in practice as health officers in various parts of England, everyone of them to whom I put your question laughed at the idea that foot-and-mouth disease is alleged to be a common disease in man in this country." These gentlemen evidently do not agree with Professor Law upon the above point. Even if we assume that the disease is more common than it is supposed to be, such facts as are set forth in this paper concerning it, in its relation to scarlatina, have never been noticed or commented upon, and to my mind are not affected by the statement that scarlatina is very prevalent in Great Britain.

Dr. J. Lewis Smith said, in discussing my former paper, "Since the time of Jenner, the hope has been awakened that some of the other fatal infectious diseases, and especially scarlet fever, might be prevented, as small-pox has been, by the inoculation of a milder and modified disease derived from the lower animals." Now let me ask my professional brothers, in a spirit of perfect candor and honest inquiry, if in the evidence furnished by the epidemic in England, the *facts* concerning which are herein quoted, we have not a fairly secure basis upon which to build the hope that scarlatina may be either prevented or modified by introducing into the human system, properly prepared and attenuated, foot-and-mouth disease virus. Let me also ask if enough cases have not been quoted, a sufficient number of experiments performed, and the ultimate results of sufficient importance to warrant a more extended trial being made of this proposed method of preventing the development of, or modifying, one of our most fatal and dreaded diseases? No theoretical objection, however adroit and well planned, can settle the question before us; further actual experience with the diseases in their clinical and apparently prophylactic relation to each other must be had before anyone can positively deny, or prove to be true, that which seems to be a fact, namely, that scarlatina and foot-and-mouth disease are mutually protective.

Suppose some drug had been administered to certain members of eight families in Dover, England, prior to the appearance of the "throat epidemic," and that, when those families were exposed to the contagium of the epidemic disease, only those who had taken the drug escaped, while every other member contracted the disease —do you not think the drug would have a new interest, and be given a fair trial, in order to determine beyond dispute whether it would in the majority of cases exercise this preventive influence. Now, why not—instead of saying, How can this be true? or, This cannot possibly be

realized—give the proposed method a fair, honest trial, just as you would give the drug a fair trial, or just as Jenner gave his method a trial, and then be guided in the future by the results. Suppose a certain number of children, in a children's hospital for the treatment of contagious diseases, were inoculated with a modified virus of foot-and-mouth disease, and after recovery from the effects of such treatment should be put into a ward with scarlatina patients and allowed to remain sufficiently long to be thoroughly exposed to the contagium of the disease. Would not that be a fair way to settle the question? What I wish is simply to determine positively, and as soon as possible, whether the escape from the "throat epidemic" of certain individuals, in the two epidemics in England, and of three children from scarlatina whom I inoculated with the virus of foot-and-mouth disease, be due to the protective influence of the one disease against the other, as appears to be the case. If we learn that we may thus prevent the development of a disease so common, ofttimes so fatal, and so frequently followed by distressing sequelæ, will we not confer a blessing on those who are susceptible to its contagium? If, on the other hand, we discover that we cannot, in the majority of instances, confer this immunity, we shall at least have made a commendable effort to realize that which a large number of clinical facts seemed to indicate as possible of accomplishment.

TRAUMATISM OF THE SPINE, WITH THE REPORT OF A CASE OF FRACTURE OF THE SIXTH CERVICAL VERTEBRA, TREATED BY TREPHINING.

By THOMAS H. MANLEY, M.D.,

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In the impetuous rush of modern investigation, when the enterprising and ambitious surgeon is anxious to spread his fame, and, besides, honestly strives to make substantial additions to the sum of human knowledge, it is to be expected that exploration, experiment, and observation should be directed to the rachitic region as well as to others.

This, indeed, promised to be a fertile field for the investigator, as for some reason, rather inexplicable at first sight, the past generation of surgeons were singularly chary about invading it; hence, when one sustained a very serious injury of the back, in their time, from violence, resulting in partial or complete palsy, little was done except to enforce rest and subdue pain.

When, however, agents were discovered by the chemist which would annihilate pain and prevent infection, the interdict was set aside, and the hollow cylinder of the vertebral column was no longer regarded as inaccessible to the operator, so that we now read of several operations being performed along the line of the spinal marrow, for traumatisms and pathological lesions with varying results.

The writer at present is mainly concerned in the estimation or the acknowledged value of those surgical measures which involve the mutilation of the soft parts; and with a view of further examining into the alleged analogy of operations on the skull and spine; besides, to submit a few notes on a case recently coming under his care, in which resort was had to active interference. As far as can be ascertained, it is the first and only case on record in this city wherein a fracture in the cervical segment of the spine was diagnosed and treated by trephining, or free incision and removal of the fragments.

History of Case.—The patient was a healthy, vigorous, young Swedish sailor, of more than average height and weight, and of a splendid muscular development.

On the night of May 4, 1890, while ascending a mast, he slipped and fell about twenty feet to the deck, striking on his head posteriorly. He was seen by the ambulance surgeon, Dr. F. P. Hammond, at midnight, and a little later was admitted into Harlem Hospital.

On examination, after entrance, by the house surgeon, Dr. James Guest, his head was drawn back in the condition of most pronounced opisthotonos, the shoulders somewhat raised, with the occiput closely applied to the dorsum. His condition was then supposed to be attributable to dislocation forward of one of the cervical vertebræ. He was extremely collapsed, but had no paralysis at this time. No evidence of serious internal injury was then found.

Treatment.—Heat and stimulants internally were ordered, and in a few hours he rallied well. With the advent of reaction and consciousness he complained of very severe pain throughout the entire neck. Not the slightest movement could be tolerated, even with muscles of deglutition, without great distress. Morphine was freely given. At 8 A.M. he felt comfortable, and desired to urinate, but was unable to do so voluntarily. The first evidence of abolition of the reflexes was with the bladder detrusor.

I saw him for the first time at the noon hour. From a careful examination through the pharyngeal vault I was satisfied that there was no dislocation, and that the clonic contraction of the muscles about the occiput was spasmodic in character. It was quite evident that there was crushing of the bony spurs—the spinous processes—of either the fifth or sixth cervical vertebra, hence, I ventured a diagnosis of fracture of the sixth. As there were no urgent symptoms, it was determined to wait and act accordingly. At this time, while there was no paralysis of an entire member, yet the grip in the right hand was much weaker than the left, and sensation was somewhat blunted. Toward evening it was clear that the paralysis was deepening, as the reflexes were wholly absent in the arm, and the right leg was quite powerless. On the morning of the second day he had well-marked hemiplegia; little power in the right arm, and none in the left lower extremity.

With this rapidly progressive paralysis, and the source of it so apparent, I resolved to anæsthetize the patient, with the hope of being able to locate and remove the pressure on the cord.

Operation.—Patient was anæsthetized, turned over on his chest, with a padded block under it, and the head extended over the table. An incision was made from the occipital protuberance to the vertebra prominens. The soft parts were infiltrated in every direction with extravasated blood and plastic exudate; the former was found in clots of varying sizes and consistence. The hæmatin in the process of absorption had deeply stained the fascia, intermuscular septa, etc., to a deep brownish-red color. The line of incision was exceedingly vascular, and ligatures had to be applied in every direction before the bony wall of the spine was reached. Owing to the swollen œdematous state of the parts, it was necessary to make a very deep wound. Now, when the tips of the spinous processes were examined a fracture through the posterior laminated arch of the sixth cervical vertebra was seen. It did not appear that the fragments were in the least displaced, their powerful ligamentous support maintaining them in their normal position. But they were compressed in every direction by dense blood-clot, and for the purpose of displacing this I removed both laminæ with forceps and scissors, using the angular rongeur only to nip off sharp projecting spiculæ. Immediately under the blood-clot the bare, white surface of the dura mater was seen.

There was nothing to indicate, from ocular inspection, that integrity was impaired, hence it was left undisturbed. When all oozing had ceased a drainage-tube was introduced into the deep muscular substance on either end; the incision brought together with catgut suture, and antiseptic gauze applied. Over all a cuirass and helmet of plaster of Paris were applied for the purpose of immobilizing the cervical spine.

Patient came out of anæsthesia in fair condition, but had free vomiting. The pain in the neck seemed rather

aggravated than relieved, and the morphine dosage had to be increased. The following morning there was some slight improvement in the paralysis, but the vomiting was assuming a dangerous phase, becoming persistent and projectile. He bitterly complained of the restraint occasioned by the light gypsum cast, especially over the seat of incision. The second night was one of great distress, relief only secured by full narcosis. On the third day he was raised in bed for the purpose of removing the drainage-tube. This was quickly accomplished, but not before he had a short, sharp spasm of the respiratory muscles, when he was promptly placed in the recumbent posture. For a moment it seemed that all was over, as he ceased to breathe, and the radial pulse was gone. Forcible artificial respiration, with the aid of restoratives, however, readily revived him. On the evening of this day he had the Cheyne-Stokes respiration.

The following morning he had a chill, with alarming prostration. It was now discovered that he was having secondary hemorrhage through the opening made by the scalpel. The wound was reopened and packed from the bottom. The hemorrhage was venous and seemed to gush up from every direction. After it was subdued the patient seemed a little easier. As evening approached mortal symptoms became manifest; the pulse became irregular, the extremities cold, and the eyes glazed. He died at 10 P.M., of a general sinking of the vital powers, though conscious to the last.

Autopsy, fourteen hours after death, was made by Dr. Frank Grauer, pathologist to the hospital. Permission was given to only open the spinal canal, hence we were denied the opportunity of examining the organs of the three great cavities.

Blood was found in large quantities along the line of the wound, and when the spinal canal came into view it continued to well up, of a tarry color and consistence, from the inner angle of the deep opening, as if it had been dammed back by compression into the loose connective tissues which line the spinal canal. The muscular and cellular tissues were softened and discolored, with evidences of recent inflammatory exudate. There was a total absence of pus.

Four inches of the spinal cord were removed. On the surface on naked-eye inspection it showed no signs of traumatic or pathological disintegration.

Remarks.—The above was, it seemed, a typical case on which could be fairly tested the practicability and utility of operative interference in traumatic lesions involving this segmented osseous column and its inclosed contents, the cord with its meninges.

At the very outset it is necessary to emphatically deny the claim that the spinal cord is as accessible as the brain, and may be explored with as much impunity.

Even from a surgical stand-point this can be scarcely admitted, though there is absolutely nothing—no organ or structure—which may not be fully and freely explored by the aid of the scalpel, saw, and drill; but physiologically, physically, and anatomically, in the vast majority of cases, division, displacement, or excision is interdicted in traumatisms. Exclusively of the radiating fibres of the temporals the whole vault of the skull is covered by but one broad, thin, ribbon-like muscle, possessing but slight mobility. The whole surface of the skull-cap is quite superficial on the vertex, almost bare when the scalp is removed. There are no movable articulations. Within the calvaria, excepting the longitudinal sinus, there are no venous channels along the periphery of any consequence till we approach the base of the brain. They are all within the dura mater, except the smaller vessels of the diploë, which become usually wholly obliterated in old age.

None of the skull-bones being acted upon independently by muscles it is a simple matter to apply dressings which will insure complete rest. Physiologically the bony inclosure of the skull in the dome—the only part readily accessible to the trephine in fractures—serves but a single purpose, viz., protection to the brain; while the osseous framework of the spine possesses at least three distinct and separate functions: First, to wall in and guard the cord. Second, to support the head, which rests and rotates on the atlas and axis; it also forms the *point d'appui* from which are suspended, directly or indirectly, the cervical structures, the thorax, its framework and contents; all the abdominal viscera, vascular and digestive; and, in the pregnant female, the gravid uterus. Third, it is eminently flexible, in the cervical and dorsal regions especially, being in almost constant motion; it is pyramidal in form, from its base upward, and serpentine in movement and can adapt itself to every diversity of movement, and position. Covered from its base upward along its lateral grooves by powerful muscular, aponeurotic, and tendinous structures, it is nowhere accessible without more or less mutilation of those parts, which in the process of repair, owing to the free plastic exudate diffused in every direction, and never becoming wholly absorbed, leaves adhesions, which later compromise free movement. Hence we find, after incisions into the spinal interior, often a very serious impairment of function, the muscular, tendinous, and osseous tissues being fused together in one immovable, inextricable mass.

The rachidian veins, unlike the main cranial trunks, are external to the dura mater. They have a histological and physiological arrangement peculiar to themselves. They are of large calibre, with very thin coats, entirely wanting in valves, and have several emulgent tributaries. Being wholly independent of atmospheric pressure, circulation within them would be impossible without the suction-power exercised by the respiratory act. Owing to their extreme tenuity and deep cavernous abode, when they give rise to hemorrhage it is extremely difficult, and often impossible, to control. There are, practically, three separate sets of spinal veins, but this is the one which specially concerns the surgeon, inasmuch as it is this set of vessels which invariably is the source of hemorrhage into the spinal canal, which, when in considerable amount, inevitably leads to compression, paralysis, and death.

Hence, in the light of our present knowledge, when from the symptoms hemorrhage into the spinal canal is suspected, absolutely nothing can be done other than to enforce rest and apply remedies which will depress the heart's action, and later promote absorption.

To directly interfere with a view of displacing a clot or closing a bleeding-point is never justifiable in my judgment. The vascular structure of the cord must always escape unless the marrow itself is crushed, when it is not a matter of much consequence. The spinal cord, occupying but two-thirds of the canal, is simply suspended or swung in its tubular chamber, and is stayed in position by its roots, which it gives off through the interosteal notches. No amount of violence or concussion can seriously disturb its vascular supply without laceration or disintegration of its substance. Accordingly, the phrase "free hemorrhage into the cord" must have resulted from careless observation, or an imperfect knowledge of the anatomy of these parts.

The spinal marrow is deeply buried under bone, muscle, and integuments, and around it circulates the arachnoidean fluid which is continuous with the brain. Like the hollow orbit of the eye, the interior of the spinal chamber is lined with a cushion of fat which fills the interspace between membrane and bone, and preserves a moderate uniform pressure on the cord, and adapts itself to its ever-varying dimensions.

Now, when an operation is contemplated which involves the division of the soft parts—muscles, ligaments, etc.—with the boring through or displacement of its bony encasement, with the admission of atmospheric pressure which must violently disturb the delicate arrangement of those structures which connect the corporeal or animal with the mental or spiritual man, we must bear well in mind the possible consequences which, reasoning *a priori*, must frequently follow.

Independent of the immediate consequences liable to follow the free removal of the lateral osseous plates, the

consolidated unified strength of the bony column is forever dissundered. The spine has lost its pristine strength and freedom of motion. No device of art can replace what has been lost. With this gap or fenestrum remaining, the support of the membranes removed, some sort of truss support may become necessary to prevent a prolapse or herniated state of the meninges, and in response to a well-known law in hydraulics, any sudden force applied over the vent must be transmitted through the fluid molecules to the brain.

FIG. 1.—Posterior View of Fractured Laminated Arch of the Seventh Cervical Vertebra.

The force necessary to fracture any portion of the spine, particularly in youth and middle age, is very great.

A brochure, the ablest and most exhaustive from an experimental stand-point ever presented by any American surgeon on the subject of spinal injuries, was recently read at the meeting of the American Medical Association, by Dr. B. A. Watson, of Jersey City, N. J. In it he shows us that the violence necessary to fracture the spine of the healthy dog was usually followed by laceration of some vital organ, as the heart, blood-vessels, liver, lungs, or kidney. We may accordingly infer, when a well-marked fracture is clearly diagnosed in any region of the

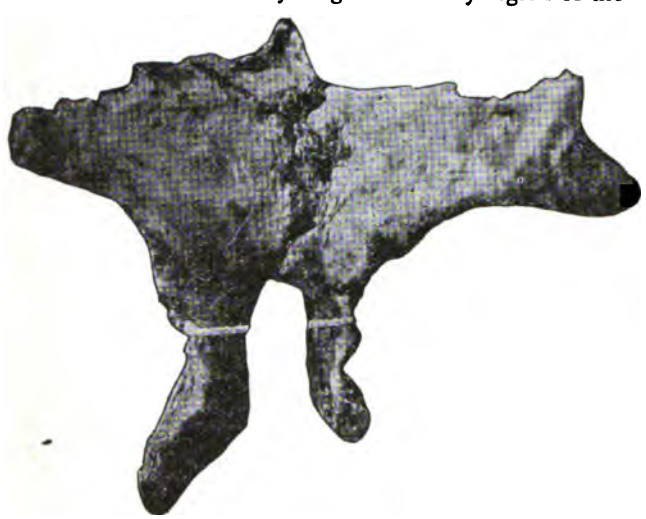

FIG. 2.—Anterior View, showing the Irregular Fracture through the Centre of Spinous Process.

spine, that some viscus either lying immediately under the seat of fracture, or farther remote, has suffered a serious disorganization by direct or transmitted force. Of the 141 dogs on which Dr. Watson experimented in producing spinal lesions, no less than 119 sustained various associate visceral complications (74.40 per cent.).

Under another course of treatment, on more conservative lines, might not our patient's chances of recovery have been better? I think we may answer this question in the negative, as symptoms which portended a mortal termination were present before we essayed to deal with the case by radical measures, as at this time the reflexes on the right side were wholly abolished and the left lower limb was without sensation. General paralysis was rapidly developing, and bodily weakness was well marked. I am quite sure, however, that the removal of broken bone added nothing to his chances of recovery. The lateral plates, though broken through at the root of the transverse processes on each side, were so held in position by their ligaments that there was but very slight displacement toward the cord. The projectile vomiting, though I have often noticed it before in spinal injuries, was greatly aggravated after operation, and made me suspicious that the descendens noni, or some of the communicating branches of the anterior cervical plexus, were lacerated or divided. I never saw an incision give rise to such agonizing and almost uncontrollable pain.

His attack of nearly mortal collapse on raising the body for the removal of the drainage-tube was an unmistakable warning that the spinal cord and its annexa, the seat of life itself, are not parts to be lightly trifled with.

Death from secondary hemorrhage on the fourth day was the last thing thought of. Hemorrhage welling up from a deeply lodged vessel in the spinal canal is entirely beyond our control, and it is well to bear this in mind when we make an estimate of the dangers in the way.

I have seen, during the past twelve years, many cases of spinal lesions from traumatisms, ending mostly in death, in which, though a few improved, none ever thoroughly recovered who had complete paraplegia on admission to hospital.

In submitting the history of this case, and commenting on questions which must always engage the serious attention of the surgeon who undertakes operations involving the spinal cord, I have endeavored to present the reasons why but little can be expected from procedures which are attended with such dangers as are encountered in this region of the body, or which are very liable to be followed by diminished strength and great loss of function.

A CASE OF ELECTRO-CAUTERIZATION OF THE MIDDLE TURBINATED BONE, FOLLOWED BY MENINGITIS.[1]

BY FRANCIS J. QUINLAN, M.D.,

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IN presenting to the Section the history of this patient, I deem it sufficiently important to detail all the symptoms before and after the operation, in order that a careful and honest review of the case may be had. As far as I know, there is not a case on record in which cauterization of the nasal chambers has been attended with fatal results.

I therefore submit to your consideration the following: Ella B——, eighteen years of age, single, dressmaker by occupation, tall, slender, and poorly nourished, came for treatment to the throat clinic of the Manhattan Eye and Ear Hospital, December 29, 1889. The examination, which was confined to the nose and throat, revealed the following symptoms: Obstructed nostrils alternating from right to left, pain over the frontal sinus, smell and taste impaired, discharges scanty, constant dropping of mucus into the throat, huskiness of voice, digestion poor; and she was very nervous.

Diagnosis.—Chronic hypertrophic rhinitis, ecchondroma and exostosis of septum, chronic follicular pharyngitis.

The patient was seen twice a week during the months of January and February, and the hypertrophied inferior turbinated bodies were reduced by the galvano-cautery. The ecchondroma and exostosis were removed with nasal trephine and Bosworth's saw. Great relief to nasal res-

[1] Read before the Section on Laryngology and Rhinology, New York Academy of Medicine, May 27, 1890.

piration followed these operations. Subsequently it was found that both middle turbinated bodies were pressing upon the septum, retaining the secretion, interfering with drainage, impairing the sense of smell, and no doubt causing by pressure the pain referred to in the frontal sinus. It was thought best to remove portions of the redundant tissue. The patient consented, and the alligator forceps was used to do the work. No reaction followed the operations. In a short time the constant dropping complained of ceased, the headache disappeared, and a general improvement in all the symptoms followed. Tonics of cod-liver oil in addition to the syrup of hypophosphites were ordered, and a marked change was apparent. The patient gained flesh, seemed in better spirits, and had the appearance of one much benefited by the treatment.

The above line of treatment was continued during the months of January and February, at intervals of two weeks, thus allowing sufficient time between each of the operations to note if any untoward symptoms should occur. After a lapse of six weeks, during which time the girl sustained a severe shock by the sudden death of her father (who was sick only three days with pneumonia), she called again at the hospital clinic, stating that, although much better, she was not breathing as freely through the right nostril as she had done, and upon examination it was found that the mucous membrane covering the stump of the right middle turbinated body was still too large and pressed upon the septum. Our patient did not look as well as when she last appeared at the hospital; she had lost flesh, was much depressed, had a poor appetite, was restless at night, and on the whole was far from being up to the standard of health. She was told to call in two weeks, and in the meantime to take two milk-punches per day, broths of beef or mutton, and a tonic of iron and strychnine. I believed that her impaired condition was mainly due to the great nervous strain that she had recently experienced by her father's death, and thought nothing more of the matter until she appeared again at the clinic. She was anxious, she said, for treatment, "as she received so much benefit before that she was bound to continue it."

On April 19th, the tissues being thoroughly cocainized, the right medium turbinated body was slightly cauterized with the galvano-cautery. No pain was felt during the operation, the patient brightened up, and returned to her home. Some powders of phenacetine, ten grains each, were ordered to be taken every two hours, should she experience any pain or discomfort. This operation took place Saturday noon.

I was sent for in great haste on the afternoon following, by the mother of the girl, who stated that since her return home she had had frequent attacks of vomiting, and had such pains in her head that she was almost frantic. I found my patient in bed, very much weakened from the constant paroxysms of nausea and vomiting, unable to retain any food, and complaining of intense pain over both eyes. Her temperature was 90° F., skin moist, pulse 100, with occasional beat lost, but still a good pulse for one so prostrate. The respiration was normal, with a marked tendency to sigh; there was the additional symptom of photophobia. Notwithstanding her weak condition she was able to get out of bed and walk into another room, where she remained seated for some time. A hypodermic of Magendie solution of eight minims was given, which appeared to relieve her and temporarily control the vomiting. Sinapisms were applied to the epigastrium and champagne with ice was ordered to be given hourly. I told the family that, as the distance was somewhat great from their abode to mine, if she grew worse they had better summon their family physician, who lived near by.

I heard nothing until Tuesday afternoon (it was Sunday evening when I saw her), when I was informed of my patient's death. This was most unexpected. On Monday morning the family sent for their doctor, who pronounced the case to be meningitis. He had endeavored to control the excruciating pains by the administration of morphine. She succumbed, however, on Tuesday morning, about seventy hours after the operation.

From Morell Mackenzie I quote the following: "But while deprecating unnecessary aggression in this tender region, I do not deny that there are many cases which can only be cured by active treatment, should hypertrophy resist the ordinary measures recommended; the redundant tissues must be destroyed or removed."

Again, in Bosworth's latest edition the following sentence appears: "The galvano-cautery has come into very extensive use, and is warmly advocated by Moldenhauer, Mackenzie, Sajous, Lennox Brown, Seiler, Scheck, Robinson, and others. All these writers give it preference over all methods." Further on in the last-named author's excellent treatise on this subject, he states that "introducing the electro-cautery into the nose involves a certain amount of risk. Most writers recognize, and indeed make special allusion to, the violent reaction that may follow its use, giving rise to an acute and distressing neuralgia, an acute dermatitis, and even an attack of facial erysipelas:" However, he records no fatal cases.

Sajous, in his recent work, states that he has never met any untoward symptoms following galvano-cauterization. During the last two weeks I have spoken to many of our eminent metropolitan laryngologists and rhinologists, and they are as a unit in agreeing that grave symptoms have never followed the use of the electro-cautery in the nose, beyond a slight reaction for a day or so.

Carl Seiler, in a recent communication on this subject, states that he has never had a fatal result from the use of the galvano-cautery. In reviewing this case, with its unlooked-for termination, I cannot convince myself that the untimely death of this girl was due *directly* (I emphasize the word) to the cauterization, but to the condition of the patient at the time of this very slight every-day operation. Why did not such a reaction follow the use of the saw (such a case was recently reported by Dr. Baruch with fatal results), or of the drill, the forceps, or even at former cauterizations?

During the three months that she submitted to operations these agents were employed very heroically at times, and still her condition during this period was one of perceptible improvement to the patient and of satisfaction to the attendant. I think Dr. Chappel's paper recently read before this Section is full of interest, wherein direct traumatism in the nasal chambers was stated to have been attended by severe symptoms, many of which lasted for months after the operations.

In dealing with troubles of the nose or throat, requiring the intervention of surgery, I consider it wise, and I would add essential, to obtain, before operating, a thorough and accurate history of the patient. It is far better that the heroic treatment be denied than that the physician should risk the serious reaction likely to follow operations conducted in doubt or ignorance of the physical peculiarities. A person of slender physique may tolerate operations of this character without any serious results, and again, in a person of robust physique the operation may be followed by severe reaction and grave complications. I recommend, then, a thorough investigation, so far as practicable, and desire to record my belief that to the condition of the nervous system at the time of the operation is, in a greater or less degree, due the gravity or danger of the symptoms and consequences that may ensue.

A Coroner's Jury Censure a Physician.—A woman died recently in Omaha from exhaustion following a protracted labor. The coroner's jury found that the woman had come to her death from heart failure, caused by exhausting labor pains and the depressing effects of the anæsthetic. The jury further found from the evidence submitted that the medical attendants upon the case were negligent in their duty in failing to perform the operation of Cæsarean section.

REPORT OF A CASE OF DEFORMITY OF THE SHOULDER.

By JOHN RIDLON, M.D.,

NEW YORK.

CHRISTOPHER K——, aged eleven, referred to me at the Vanderbilt Clinic by Dr. Huntington Richards, presented January 20, 1890. Hereditary history good. General health good. Was a healthy and well-formed infant. During an attack of whooping-cough, when a year old, the deformity which is now present suddenly appeared, and has remained without change since that time. There has been no pain or discomfort at anv time. The wood-cuts show the front and back views of the patient at the present time. The chin points to the left, the right shoulder is somewhat raised, and the head approaches it; the sterno-mastoid muscles are equally prominent, and apparently normal. The front view of the patient suggests either torticollis or upper cervical spinal caries. The former is excluded because both sterno-mastoid mus-

FIG. 1.

cles are equally prominent; whereas in torticollis, with the chin pointing to the left only, the right muscle should be prominent, and that muscle should be structurally shortened, limiting motion as an inelastic band. Upper cervical spinal caries, although sometimes presenting two prominent sterno-mastoid muscles, usually presents prominently only the muscle on the side toward which the chin points—the left in this case—the condition being the opposite of that found in torticollis. Caries is excluded because of the long duration, the absence of pain, and the mobility in the cervical spine.

Viewed from the back the head approaches the right shoulder, the shoulder is elevated, the scapula is rotated around the shoulder-joint as a centre, so that its lower angle points directly inward toward the spinal column. At the upper border of the scapula a swelling appears, somewhat more than an inch in transverse diameter, and in elevation half that distance; it has a firm, though somewhat elastic, feel. There is no tenderness on palpation, or pain on manipulation of the parts. The case was referred by me to Professor M. A. Starr for his opinion.

In the absence of Professor Starr the patient was seen and hastily examined by Dr. W. W. Skinner, Clinical Assistant to the Department for Nervous Diseases of the Vanderbilt Clinic. He writes: "I have examined the trapezius in question and find that the electrical reactions indicate a very slight degree of degeneration in the fibres of the muscle (the anode producing a slightly greater contraction than the cathode), although both kinds of electricity produce prompt responses. Some of the middle fibres, however, that are inserted into the middle of the spine of the scapula, do not react at all."

On March 21st the case was presented by me, for diagnosis, at the meeting of the Orthopedic Section of the New York Academy of Medicine, with the history as narrated. The notes of the discussion, by the official stenographer, Dr. Ogden C. Ludlow, are as follows: "Dr. Gibney considered it a case of cervical rotary scoliosis, with a cyst at the top of the scapula. He had seen one or two with cysts in that region, and had one at present under treatment in which the cyst had been aspirated, and clear yellowish serum evacuated.

"Dr. Ketch agreed with Dr. Gibney as far as the rotary lateral curvature was concerned. It seemed to him a congenital case, in which there was an arrest of growth of muscles producing the deformity. Concerning the cystic nature of the swelling he was not so positive.

"Dr. Putzell asked upon what Dr. Gibney based his diagnosis.

"Dr. Gibney replied that his diagnosis was made on the position of the right shoulder, and on bending forward there was deviation to the right—right scapula was higher than the other; and the head was drawn a little to that side.

"Dr. Putzell said that it seemed to him that there was a spasm of the muscles inserted into the inner border of the scapula; and that instead of a tumor he found an enlargement of the bones of the inner portion of the spine of the scapula.

"Dr. Judson said that there seemed to be evident scoliosis—a sigmoid curvature of the line of the spinous processes, and also elevation and projection of the right scapula. The tumor he was not so clear about.

"Dr. Birdsall said that the patient had the use of all the different muscles, and the mobility was considerable; but the mass seemed very spherical for muscle, although it changed its shape and hardness with various motions. The electrical test should determine very promptly whether it was cystic or simply due to muscular spasm. The muscular spasm, he should think, would account for most of the deformity.

"Dr. Phelps said that he considered the scoliosis secondary and not primary. The primary difficulty was spasm of the muscles from some cause which threw the head out of line; and the curve had resulted from muscular contraction, which perhaps was, to a certain extent, compensatory. In a growing child, when such a condition took place, scoliosis would result. If there should occur paralysis of the respiratory muscles, we would have an unequal action of the different portions of the chest, resulting in scoliosis.

"Dr. Gray said that he would suggest, in addition to Dr. Birdsall's remarks, that the muscle should be harpooned to determine if there were any muscular degeneration present."

After the meeting the patient's father stated that some two years ago the patient had been anæsthetized by Dr. Gerster, and that the deformity had entirely disappeared, to return again with consciousness. Dr. Gerster says that he saw the patient soon after the deformity came on, that is to say, about six years ago, at which time he anæsthetized him with chloroform and found that the deformity entirely disappeared, but could be produced again at will by the faradic current while the patient was still anæsthetized. He is of the opinion that the deformity was originally due to a paralysis of the serratus magnus, produced during the course of a very severe attack of whooping-cough, and a resulting contracture of the opposing group of muscles, consisting of the rhomboids and the levator scapulæ. Later, it seems, a contraction of the trapezius took place, and a secondary lateral deviation of the spine developed.

Under date of May 16, 1890, Professor Starr, having in the meantime examined the patient, writes: "My diagnosis of the case is a tonic spasm of the trapezius, levator anguli scapulæ, and rhomboidii of the right side, producing a characteristic deformity. It is to be distinguished from paralysis of the serratus by the facts—1, that voluntary contraction is possible in normal degree in that muscle; and 2, that the shoulder is elevated instead of being depressed. The sudden onset, the continued spasm, the impossibility of producing voluntarily a similar position of the left side, the relaxation only under deep anæsthesia, and not in sleep, all favor an organic lesion and negative an hysterical affection. The nerves supplying these muscles come together from the fourth or fifth cervical segment of the cord in the fifth cervical nerve. It seems probable that some irritative lesion there—primarily hemorrhage, secondarily sclerosis—is producing the irritation; the absence of sensory symptoms, of tenderness along the nerves, of muscular atrophy, and reaction of degeneration negative a diagnosis of a lesion of the roots of the nerves

FIG. 2.

themselves. My prognosis as to recovery is bad. Relief could be had by division of the nerves to their muscles individually, but the subsequent paralysis would result in a contraction equally asymmetrical and more inconvenient, and if the divided nerves united or regenerated the symptoms would return. Exercise of the opposing muscles and passive movements are recommended."

On May 24th Dr. Skinner again examined the patient and reports as follows: "Examined by galvanism the muscles of the right shoulder react to this agent in essentially the same manner as those of the left. The trapezius reacts the same on both sides, as do also the supraspinatus and infraspinatus. The rhomboidii, shortened though they were, reacted a little more evidently on the affected side than on the normal side. No difference could be detected in the levatores anguli scapulæ. The serratus magnus on the affected side responded to the stimulus. In sum, there is no paralysis of these muscles, no reaction of degeneration, and C. C. C. > A. C. C. in all, and this is true as well as of the muscles themselves."

Ross[1] says: "Spasm of the rhomboidii manifests itself by the peculiar position of the scapula. Its inner border assumes an oblique position from above downward, and from without inward, the lower angle being drawn upward and approximated to the vertebral column. The muscle can be felt as a firm swelling between the spinal column and the scapula. The affection is distinguished from paralysis of the serratus magnus by the fact that the internal border of the scapula is not lifted away from the chest, the shoulder is not depressed, and distinct resistance is experienced from the contracted muscle when an attempt is made to raise the arm into a vertical position. Tonic spasm or contraction of this muscle has hitherto alone been observed.

"Spasm of the Levator Anguli Scapulæ.—The upper and inner angle of the scapula is strongly elevated in this affection; the head is inclined to the same side; the shoulder is drawn somewhat forward; the supraclavicular fossa is increased in depth, and the contracted muscle projects distinctly beneath the anterior border of the trapezius, which can be easily isolated from it by faradization. It occurs in the form of tonic contracture in connection with spasm of the rhomboidii or of the trapezius."

[1] A Treatise on the Diseases of the Nervous System, by James Ross, M.D., LL.D., vol. i., p. 593. William Wood & Co., 1883.

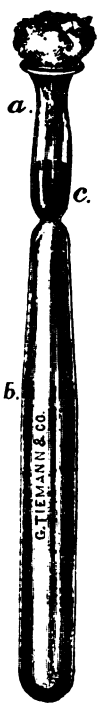
337 WEST FIFTY-SEVENTH STREET.

THE USE OF HOT WATER IN THE LOCAL TREATMENT OF ACNE OF THE FACE.

BY FREDERICK J. LEVISEUR, M.D.,

DERMATOLOGIST TO ST. BARTHOLOMEW'S AND RANDALL'S ISLAND HOSPITALS, NEW YORK.

HOT water applied twice or three times a day for about five minutes is one of the most reliable local remedies which we possess for the treatment of acne of the face. To derive the full benefit from the effects of this simple remedy it is necessary that the physician, and through him the patient, should be thoroughly familiar with the proper method of using it. The water should be very hot, so hot, in fact, that it can hardly be borne by the patient. Care should, of course, be taken not to scald the face, but if the water is warm only, instead of really hot, more harm than good will be produced. The face should not be washed, rubbed, or bathed with the hot water, as is so frequently done, but a small portion of the diseased area of the face should be soaked with it for a very short time only. The heat of the water, which is brought in contact with the skin, is deeply dissipated for a moment and causes an intense but transitory local hyperæmia. This is exactly what we want to produce. If the hot water is allowed to act on the skin for too long a time, say more than a minute, or if the application is renewed at too short intervals, an acute inflammatory condition is added to the disease already existing. It is sufficient to go over the affected parts twice in one sitting and the entire operation need not take more than three to five minutes. A handkerchief or a piece of soft linen is commonly used to convey the hot water to the face. I use for this purpose a very simple glass holder, which I have constructed. Since this little instrument, which I have named "Thermophor," has proved itself very useful and convenient I shall take the liberty of shortly describing it here.



The instrument consists, as is seen by the accompanying wood-cut, of the handle (*b*) and the head (*a*). The latter is nothing else but an ordinary short test-tube. About half of this tube is filled with cold water (*c*). A thick pad of absorbent cotton is tightly stuffed into the opening of the tube. The holder is then reversed and the water inside the tube allowed to soak the cotton. The latter is thus kept in place by dint of the weight and adhesion of the water. During these few preparatory steps water has been brought to the boiling-point in a small vessel on a stove or over a gas or alcohol lamp. The holder with the

cotton is dipped into the hot water, left in it for a few minutes, and then carefully carried to the affected portion of the face.

The advantages of the "thermophor" are manifold. It saves the patient's hands from coming in contact with the hot water, it renders possible the use of water of very high temperature and makes it easy to confine the action of the heat to a limited portion of the diseased area. Besides it is clean, handy, and cheap.

Not only plain, but also medicated hot water may be used in the manner as described above. Hot solutions of boric acid, bicarbonate of soda, salicylic acid, resorcin, etc., are all very servicable. I have had excellent results, from the use of the so-called "lotio alba" to which resorcin is added according to the following formula:

℞. Zinc. sulf.
Potass. sulfuret.....ää 3j.
Aq. rosar..... ℥iv.
Dissolve each of the ingredients in half the water, misce et adde

Resorcini..... 3j.
S.: Lotion. Shake well.

This lotion is to be used hot at night and cold in the morning.

687 Lexington Avenue.

Clinical Department.

TRANSPLANTING THE FEMURS OF A RABBIT'S LEGS FOR UNUNITED FRACTURE OF THE FOREARM.

By WILLIAM H. SHERWOOD, M.D.,
PAINESVILLE, O.

Some months ago the Medical Record published an operation similar to this by Dr. McGill, of Charing Cross Hospital, London. The radius was the only bone fractured in his case. In this one the radius and ulna were both broken in the right arm, near the junction of the middle and lower third.

January 20, 1890, Mr. A. H—— called at my office to see if anything could be done to restore the usefulness of the member. The forearm and hand were considerably atrophied and the arm was entirely useless, but was not paining him. Although fairly nourished, his appearance was somewhat anæmic. He was unmarried, twenty-seven years of age, a farmer by profession. The injury was caused by falling from a load of hay, the summer previous. Although having been under the care of two excellent surgeons, who had faithfully tried the usual means to bring about union, there had been no effort on the part of *vis medicatrix naturæ* to restore the member. An operation, consisting of transplanting rabbit's bone, was advised. To this he readily consented, and on February 19, 1890, assisted by my friends and eminent surgeons, Drs. O. and F. Pomeroy, of Chardon, O., he was anæsthetized and incisions made. Large quantities of fibrous tissue were removed and the ends of the bones thoroughly freshened. The ends of the radius were quite badly splintered, although not comminuted, but there was as little excision of bone as possible. After arresting the hemorrhage and cleansing the wound with solution bichloride, one to three thousand, at a preconcerted signal Dr. Frank Pomeroy brought in the rabbit's femurs on a plate covered with a cloth wrung out of Peaslie's solution, at a temperature of 78°. The bones were cut into transverse segments about one-fourth inch in thickness. Nine of these pieces were carefully wedged in between the incised ends of the radius and ulna. The wounds were then nicely closed by Dr. O. Pomeroy with fine animal sutures, covered with a thick compress of iodoform gauze, and put up in a firm dressing of silicate of soda, with fenestra opposite each wound.

With the exception of high surgical fever at the end of forty-eight hours, which resembled erysipelatous flush, with a temperature of 104° F., but which, in a day or two, terminated in slight suppuration of the wounds, and a lowering of the temperature to that of normal, there was rapid union of the bones, and a steady improvement in the strength of the arm. About four months after the operation, four of the pieces transplanted were extruded from one of the wounds not quite healed, though both radius and ulna seemed well united.

On August 12, 1890, I saw him for the last time. His arm was firmly united, and he had hired out as conductor of a street car in Cleveland.

I am not aware that the operation of transplanting rabbit bone for ununited fracture has been performed in this country previous to this date.

CASE OF HYPERPYREXIA.

By R. F. GRAHAM, M.D.,
GREELEY, COL.

On April 18, 1890, I attended Mrs. N——, in an easy confinement. The child was a month premature, small and feeble, and very deficient in subcutaneous fat. During the first week it was constipated, made but feeble attempts at nursing, so that it had to be fed mother's milk with a spoon. There was frequent twitching all over its body, and its head was constantly thrown backward. At 4 A.M. on the eighth day I was called hastily to see it on account of its extreme restlessness. The morning was chilly and its room rather cool for comfort. Its respirations were between 70 and 80 per minute, pulse too rapid and feeble to count, temperature in groin and rectum 108.5° F. I afterward tested the thermometer with two thermometers having certificates of accuracy and found it to be correct.

I put the child in a bath at 80° F., at the same time applying cold to the head, and at the end of ten minutes its temperature was below 100° F. Took it out, wrapped it in warm flannels, and it nursed for the first time in several hours, and slept quietly for two hours, the first sleep it had had during the night. At the end of the two hours its rectal temperature was 97.5° F. Gave it stimulants and applied external heat. During the day it had four or five loose stools, but no diarrhœa afterward. Its temperature never rose again above 101° F., and it steadily gained strength from this time on, and is now a nice growing baby at four months of age.

From the time of confinement its mother had no trouble. The child had no inflammation in head, chest, or abdomen, indeed the elevation of temperature was too transitory to be accounted for by any inflammation.

I look on the case as being of nervous origin, possibly a suppressed or aborted tetanus.

THE GASTRO-MUNDATOR.

By JOHN M. THOMPSON, M.D.,
OCALA, FLA.

The introduction of lavage, or washing out the stomach, has proved to be one of the most effective agents in the treatment of the different affections of this organ. By this means we thoroughly cleanse the organ and prepare it for the better application of our remedial agent. Heretofore the application of any of the instruments devised for direct medication of the stomach, through a tube inserted into the organ, has been attended with several objections, the most serious of which was the tube itself. It was hard and almost inflexible, the insertion of which was little more than running a stick down the throat, a treatment which few patients would submit to. Then, after pumping into the stomach the desired amount of water or medicament, the patient had to retain the stomach tube in position until it was unscrewed and attached to the other nozzle on the pump before the contents could

be removed. This procedure in my hands has almost always been attended by such violent emesis that the tube had to be removed before the operation was completed.

The use of the gastro-mundator, an instrument made by Tiemann and Co., which possesses all the necessary requirements for the thorough lavage of the stomach, obviates all the objections to the old instruments used for this purpose. It is quite simple, and consists of a rubber bulb and two tubes attached to the top. One of these is soft, flexible, and velvet-eyed for the stomach, and is as agreeable to the patient as anything inserted into the stomach could be; and the other is a rubber tube of firmer make, which has a metal attachment on the free end, by which the entire contents of any vessel can be drawn up. The soft tube is inserted into the stomach, and the other tube into the vessel containing the medicament, when, by pressure on the bulb, the fluid is injected into the stomach; when ready to pump out the contents, the plate on top of the bulb is simply turned to one side and the same process of pressure on the bulb removes thoroughly the contents. The loss of time necessarily taken to change the tube is thus obviated, and the inconvenience and unpleasant sensation of having a tube down the throat and into the stomach is sooner relieved. The use of this instrument in the different disorders of the stomach, from simple derangement of the digestion to cancer, has proven, in my hands, a valuable adjuvant in their treatment, and I believe it is destined to become more generally used when its true value is known.

Progress of Medical Science.

The Etiology of Asiatic Cholera.—Dr. Hueppe concludes, from his studies and from those of Wood, of Edinburgh, upon the nature of cholera, that it is a process limited to the intestine; it is biologically a specific intestinal putrefaction with the production of a specific toxin. The loss of water and the denudation of the intestinal mucous membrane of its epithelium, though important symptomatically, are without etiological relation to the disease. As far as experiments yet indicate, the cholera bacteria, whether entering the system in a moist or dry condition, and whether inhaled or swallowed, always reach the intestine by way of the stomach. It has been found that with a proper selection of nourishment, but without the presence of oxygen, the cholera bacteria produce their poison more energetically and more quickly than under the ordinary conditions of culture in the presence of air. This is in accord with the fact that the cholera process is carried on in man under the conditions of anaërobiosis. Wood has shown conclusively that bacteria in a state of anaërobiosis are much more sensitive to external conditions than when in a condition of aërobiosis. The cholera bacteria, therefore, though very energetically producing toxin in the intestine, are much more sensitive to external agents, so that traces of acid are sufficient for their destruction. They are more easily destroyed in the fresh stool than at any other time. From a clinical stand-point, therefore, it is important to disinfect the stools and the linen at once, since with delay the resistance of the micro-organisms increases. A therapeutic indication depending on the facts brought forward is to administer by the mouth some substance which may pass the stomach unchanged, and in the intestine act upon the bacteria. For this purpose salol appears to be best fitted, in the effort to exert an internal and perhaps specific action against the disease. These observations account for the hitherto puzzling fact that cholera only seldom is contagious, transmitted directly from the sick to the well. The bacteria are in such a susceptible condition on leaving the bowel, that even if they at once find their way into the stomach of a healthy person, they will almost certainly be destroyed by the gastric juice. In a short time, however, the anaërobic cholera bacteria outside the body, in the presence of air and supplied with proper nourishment, become aërobic. It is also true that the cholera bacteria in the anaërobic condition are much more particular in the choice of their nourishment than when aërobic; and this constitutes another ground for their increased power of resistance outside of the body. The author also maintains that there is a third form—the arthrospores—which is even more resistant than the vegetative aërobic form. In any case, should any of the forms whose power of resistance has been increased enter the stomach, it would seem that they are not destroyed there, even by the presence of acid, but pass into the intestine, and there complete the *circulus vitiosus*. Pettenkofer has, with reason, made prominent the epidemiological observation that, as a rule, the cholera infection is indirect, being influenced by external conditions, the principal of these conditions being the variations in the ground-water. With the diminution of the ground-water—*i.e.*, with the diminution in the degree of dampness in the upper layers of the ground, the danger of cholera increases; while with the increase of dampness in the upper layers the danger decreases. The proper explanation of this would appear to be that the cholera germ enters the ground in its most sensitive and least resistant condition. If too much moisture—*i.e.*, too little air and atmospheric oxygen—is present, they simply perish. If the ground is only damp, so that air can reach them, as aërobic they increase at the expense of the nutrient matter present. If now, with these viable cholera germs in the ground, the ground-water diminishes, the conditions are those most favorable to aërobic life, and the cholera germs increase. The preliminary conditions are thus fulfilled for a miasmatic spread of a cholera epidemic. If, on the other hand, while an epidemic is in progress the ground-water increases in amount, the bacteria can no longer increase, and are either destroyed or rendered inactive, and the epidemic ceases for want of suitable infectious material. Of course, these bacteriological facts are not the only epidemiological factors; but the conclusion seems justifiable that Asiatic cholera is truly a miasmatic-contagious disease, with epidemiologically marked prominence of the dependence upon external circumstances, the nature of which bacteriologically has now become clearer.—*The American Journal of the Medical Sciences*, July, 1890.

Gurjun Oil as an Expectorant.—Gurjun balsam, or wood oil, is a balsamic exudation obtained from the trunk of dipterocarpus turbinatus and other species growing in the East Indies, by incision and the application of heat. It is a transparent liquid, like olive oil, of an opaque, dingy, greenish-gray color, as seen by reflected light, and having an aromatic odor and taste not unlike that of copaiba, but without its acridity. Some years ago it was brought into notice as a remedy for leprosy. In the present instance it was given by Dr. Murrell, for its expectorant qualities, in the treatment of bronchitis and winter cough. At first he prescribed it in doses of one or two drachms three times daily, in combination with liquor potassæ, spirit of nitrous ether, mucilage of acacia, and cinnamon water; but this was not a very inviting preparation, as it had a tendency to "curale" and produce a rash during its elimination through the skin. After a time he gave it with extract of malt—two drachms of the balsam to one ounce of the extract—three times a day, and this was taken without any difficulty. The chronic bronchitics reported that it acted admirably as an expectorant, "clearing the chest" and easing the cough. In several cases pilocarpine was given at bed-time, to produce sweating, but no eruptions resulted. Dr. Murrell concludes that gurjun oil has all the advantages of copaiba as an expectorant, without the grave disadvantage of exciting an eruption.—*The Lancet.*

Typhoid Fever and Diphtheria in Australia.—In Melbourne, Australia, during the first four months of 1890, there were 303 deaths from typhoid fever, and 177 from diphtheria.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, September 13, 1890.

FOOT-AND-MOUTH DISEASE IN ITS PROPHYLACTIC RELATION TO SCARLATINA.

IN the interesting paper on this subject which appears in another column, Dr. Stickler presents some very suggestive points which are well worthy of the earnest and thoughtful attention of the medical profession. It will be observed by the reader that no attempt is made in the paper to twist the facts in order to make them fit a pet theory of the author, but they are simply recorded as they were elicited by two observers, and are accompanied with comparatively few comments. The question is then asked, "May it not be true that these two diseases (foot-and-mouth disease and scarlatina) may be mutually protective?" In order to get at the pith of the paper we may reproduce here the main points brought out by the author in his argument. They are as follows:

First, in reference to the Dover epidemic: 1. Members of eight families who had previously had scarlatina escaped the foot-and-mouth disease (or the "throat epidemic," as it was called). 2. Of 183 persons who suffered from the "throat epidemic" 16 had had scarlatina. 3. Four of the 16 who had had scarlatina had a mild form of the "throat epidemic." 4. Two of the affected individuals had had scarlatina when young.

Second, in regard to the epidemic at Bethersden: 1. Two members of one family who had not previously had scarlet fever developed the foot-and-mouth disease, while four members of the same family who had previously had scarlatina escaped entirely. 2. In another family three members who had not had scarlet fever contracted the foot-and-mouth disease, while the three other members, who had previously had scarlatina, were not attacked by the "throat epidemic." 3. But one person had scarlatina after having had foot-and-mouth disease, and in that one the attack was very mild. 4. Persons who had had scarlatina and subsequently contracted the foot-and-mouth disease suffered from a very mild form of the latter affection. It is also stated as a fact that fourteen of the persons who had suffered from the "throat epidemic" in 1884 have since been exposed to scarlatina without, however, contracting the disease. Statements such as these ought not to be put aside as unworthy of consideration, for the facts given are too suggestive of the possibility of a great discovery. Anything that offers us even the hope of preventing the occurrence of such a destructive malady as scarlet fever is worthy our careful consideration.

As will been seen also, on a perusal of the paper, some inoculation experiments were actually made, with apparent success. Three children were inoculated with the foot-and-mouth disease and were subsequently exposed to the contagium of scarlatina, but all escaped infection. Of course such a limited test as this proves nothing, but it certainly suggests the possibility of greater success, and should encourage further trials.

We may also note here what Dr. Robinson says, in a letter to the author of the paper, in regard to the degree of protection apparently afforded by foot-and-mouth disease. He writes: "As to the prophylactic power of one disease against the other, my own view is, that if persons who have had one disease and are exposed to the other suffer from the alternate one they do so in a mild form." He also says, as evidence of the relation of the two diseases, that in the county of Norfolk, during a period of great prevalence of foot-and-mouth disease among cattle in 1883, there was a great increase of scarlet fever, and especially a scarlatinal sort of sore-throat.

Dr. Stickler also makes some interesting statements in his paper in regard to the comparative pathology of the two diseases. In both, it seems, there is enlargement of the papillæ of the tongue; in both there is desquamation of the cuticle during convalescence; in both the period of incubation is of about the same length; and in both there is occasionally a separation of the mucous membrane of the tongue in pieces of greater or less size. These are certainly striking points of similarity.

The fact that absolute protection was not obtained in all the cases thus far observed should not discourage further investigation. Reference to the early history of Jenner's inoculations with the virus of cow-pox discloses the fact that although in the majority of instances immunity from small-pox was secured by the practice of vaccination, yet there were many failures. Several persons who had been successfully vaccinated by Jenner himself subsequently developed small-pox, and some of them came near dying of the disease. Yet no one thinks of doing away with vaccination because it did not always then, and does not in every instance now, protect the human system from small-pox. Even a previous visitation of true variola, measles, or scarlet fever does not render the individual perfectly secure from a second attack of the same disease.

Although we cannot yet accept the facts given as conclusively establishing a mutually protective relationship between the two diseases studied by Dr. Stickler in his paper, yet the evidence adduced seems to us sufficiently strong to warrant further investigation, and even to inspire a hope that these investigations may not be without fruit of real and lasting importance to the human family.

A NEW METHOD OF PRODUCING ANÆSTHESIA WITH CHLOROFORM.

THERE is a determined effort being made by some of the younger French surgeons to introduce a so-called new method of administering chloroform for purposes of surgical anæsthesia. This new method has as its basis the

principle of giving small and continuous doses. It is not in reality new, but is a plan which has never been widely adopted, nor received the recognition which it is believed that it deserves.

The method was described in detail by Dr. Léon Labbé, in 1881, before the Académie de Medécine. In 1883 Dr. Peyraud, of Bordeaux, described a similar procedure and insisted, in several communications, upon its advantages.

In 1887, Dr. Paul Boncour, a pupil of Labbé, described the method again; and M. Péraire, another pupil of Labbé's, introduced it into the service of M. Terrier at the Hôpital Bichat. Last year M. Schwartz again called attention to Labbé's procedure in the *Revue Generale de Clinique et de Thérapeutique*. Now, M. Marcel Baudoin, lately of the Hôpital Bichat, has given another full account of it in the *Gazette des Hôpitaux*.

The very great delay shown by surgeons in recognizing this method of Labbé's indicates, possibly, that it has some radical defects; or it may only show the very pronounced conservatism of surgeons in matters of routine practice.

The details of the process of anæsthetizing patients by continuous small dosage are described by Dr. Baudoin with great minuteness, and every possible precaution in case of accident is taken. The "manuel opératoire" thus furnished is a most excellent one, and ought to be read by every young surgeon and many of the older members of the profession. As regards the administration of the chloroform itself, the process is very simple. No apparatus or special inhaler is employed. A folded handkerchief is laid upon the face carefully, so as to cover the nose and mouth. It is pulled up a little in the middle so as to make a kind of cone. Then, two, three, or four drops of chloroform are poured on the handkerchief, the face being carefully watched for signs of reflex syncope. It may be necessary at first to raise the handkerchief for a moment, but after the first inhalations this should not be done. At the end of a quarter of a minute, four or five more drops are allowed to fall upon the most elevated part of the handkerchief. At the end of half a minute more four to six drops are poured out. This process is continued for fifteen or twenty minutes, when the patient will be anæsthetized. Only seven or eight grammes of chloroform will have been used, whereas by other methods twenty to thirty grammes are usually required.

HYDROPHOBIA BEFORE AND AFTER PASTEUR.

THE daily press is doing much harm in giving dangerous prominence to sensational reports about persons bitten by all kinds of rabid animals seeking relief at the New York Pasteur Institute. The following paradox already confronts us: Rabies increases *pari passu* with the erection of institutes intended to prevent it. Is it not time for our authorities to interfere, and restore the *statu quo ante*, when reporters' quills had not yet succeeded in converting a merely potential danger into a decidedly actual one? A fear-stricken community will doubtless supply as many alleged hydrophobia cases as any number of Pasteur Institutes are willing to accommodate. But the real danger for "the bitten" generally first begins with hearing or reading about the dreadful fate that awaits them. If the public press is really the public's friend, it can perform its high office in no better way than by a studious avoidance of any allusion to hydrophobia for the next ten years. Prurient curiosity need not be catered to by decent journalism.

In the matter of hydrophobia we at present still deplore the absence of reliable records, culled from scientific journals. Unimpeachable testimony, numerically insignificant though it may appear, is therefore to be welcomed by all whose sole interest should be the greatest good to the greatest number. This kind of testimony is found in the *Journal de Médecine de Paris* of July 6, 1890, in a brief article from the pen of Professor Michel Peter, an author of unquestioned reputation even on our side of the Atlantic. The article referred to contains the official figures of deaths from rabies for the past ten years, as compiled by the authorities of the city of Paris. It appears therefrom that in the most populous province of France, the Department of the Seine, thirty-eight deaths from rabies occurred in the four years preceding the opening of the Pasteur Institute. But in the four years during which protective inoculation has been practised the deaths from hydrophobia amounted to thirty-seven. "Is it possible to furnish a more striking proof of the utter futility of the Pasteur method?" asks the author of the paper under consideration.

Again, according to the figures given by Dr. Dujardin-Beaumetz, a friend of Pasteurism, six fatal cases of rabies occurred in the city of Paris in 1889. Of this number three were treated by protective inoculation, and the other three did not present themselves at the Institute. Dujardin-Beaumetz himself, although an ardent advocate of this blundering system, is compelled to admit that "the Pasteur treatment does not prevent the occurrence of hydrophobia, to suppress which it will be necessary to rigorously carry out the provisions of the law." (Those provisions apply to the muzzling of dogs, and the immediate killing of all animals bitten by others suspected of rabies.)

"*Alors, à quoi bon, Pasteur?*" aptly remarks Dr. Peter.

But the author goes further than this. The official figures evidently show that, with or without Pasteurism, the mortality from rabies remains the same. But, he says, how about those who succumb under protective inoculation, and in consequence of the same? How about those who are sent to their doom ticketed as having died from "pulmonary congestion," when the true cause of their death was antirabic poisoning? There are no figures now to tell these tales. But perhaps some day they will be made public, and then the daily press can be relied upon to raise as much of a hue and cry about the pernicious effects of popular medical illusions as it does at present concerning the marvellous results of treatment at the Pasteur Institute.

The Good Effects of Vaccination have been well shown recently in Holland. During the years 1870–1873, 20,575 persons died of small-pox in that country. Since then as a result of the strict enforcement of the new vaccination laws, the prevalence of the disease has steadily declined. Last year but a single death occurred from small-pox in the entire kingdom.

News of the Week.

An International Congress of Vegetarians was held in London on September 11th, 12th, and 13th, in Memorial Hall, under the auspices of the Vegetarian Federal Union.

Influenza still Rife.—Reports from various places in Europe state that the influenza is still prevalent, though with different symptoms from those most commonly observed during the epidemic of last fall and winter. In some places the most prominent symptoms are those of gastro-intestinal disease, in others a simple mental and physical depression, and in still others a severe form of pharyngitis. It is very questionable, however, how far these little local epidemics, with such varying symptoms, can justly be attributed to the action of a common cause, whether influenza or any other specific disease. Sore throats, diarrhœas, and nasal catarrhs are common enough at all times, independent of any special epidemic influence. In Iceland, however, the genuine disease seems to be prevailing in an aggravated form. It has appeared in the island and has spread with great rapidity. Former epidemics of influenza in Iceland were very fatal. In 1843, in a total population of 57,000, the deaths from influenza amounted to about two thousand, and in 1866 there were nearly fifteen hundred deaths from the same cause. The *Correio Medico*, of Lisbon, states, only recently, that influenza has also been rife at the Azores for some months, and that it seems to be assuming a more serious type.

Opium Production in China.—The Emperor of China has issued a decree legalizing the production of native opium. As the total annual home consumption of opium in China has lately been reckoned to be about forty-one million eight hundred thousand pounds, it is expected that this will in future be a source of considerable revenue to the imperial exchequer.

Small-pox is said to be prevailing to a very alarming extent in Saltillo, Mexico. The local authorities have taken no measures to prevent the spread of the disease. The mortality is chiefly among children, as many as four hundred of whom have died within a single month.

Appointment of a Woman Interne in Brussels.—A Miss Everaert, who was recently graduated with high honors from the medical school at Brussels, has been appointed Assistant Physician to the Hôpital St. Jean in that city. This is said to be the first time that a staff appointment in any of the public hospitals of Belgium has been conferred on a woman.

Increased Powers to Health Boards.—A law has recently been passed in England giving to the health authorities power to tear down any building which may be deemed injurious to public health, and also to regulate the number of inmates of any house.

The Journal of the Arkansas State Medical Society made its first appearance in July. It was started at the suggestion of Dr. Orto, who made a strong plea for it in his presidential address at the last annual meeting of the Society. It is proposed to issue the journal on the 15th of each month, and we are pleased to learn that the venture is already established on a firm financial basis.

Cœliotomy is the name which Dr. Robert P. Harris, of Philadelphia, says should be used as the synonym of abdominal section, the term laparotomy being applicable only to an incision in the flank. He has written a pamphlet in support of his position, wherein he adduces many arguments in favor of the use of this word, incidentally giving the time-honored and trusted Kraus a blow which well-nigh topples him off his pinnacle of fame as a learned dictionary-maker.

The Pourrat Prize.—Professor Johannes Gad and Dr. François Heymanns, of the Physiological Institute attached to the Berlin University, have received the Pourrat prize of the Paris Academy of Sciences for an essay on the influence of temperature on the functions of the muscular tissue.

Scurvy in Newfoundland.—This disease is reported to be alarmingly prevalent among the fishing towns of the French shore of Newfoundland.

The Paris Night Medical Service in the course of the last year paid 2,135 visits; the preceding year the number was the same. The proportion of male patients was thirty-three per cent., of female fifty per cent., and of children under three years of age seventeen per cent.

Prizes for Essays on First Aid to the Injured.—The French Society of Hygiene offers a gold medal of the value of $40, a silver medal, and two bronze medals for the best essays on the following subject: "The Treatment to be Carried Out before the Arrival of the Doctor in Cases of Accident Occurring in the Street or in Workshops." Particulars may be obtained from the Secretary, 30, Rue du Dragon, Paris.

An International Sanitary Commission.—Premier Crispi, of Italy, has just caused to be distributed to the representatives of Italy in foreign countries a circular, in which he proposes the convening of an International Commission with a view to institute a sanitary service for the Red Sea. He suggests that two international sanitary offices be established, one for the medical visitation of ships which enter the Red Sea from the Indian Ocean, and the other for that of ships which pass from the Red Sea to the Mediterranean. Another proposal in his circular is to the effect that in connection with each of the two offices should be instituted an international sanitary station, where the ships must put in for disinfection when found to have cases of infective disease, actual or suspected, on board.

Notification of Infectious Diseases in Milan.—The Mayor of Milan has sent a circular to all the medical practitioners in that city urging upon them the strict observance of the new Italian law as to the notification of infectious disease. The diseases to which the enactment applies are measles, scarlet fever, small-pox, typhoid, typhus, diphtheria, croup, puerperal fever, hydrophobia, cholera and other possible diseases of exotic origin transmissible or suspected of being so, and syphilis conveyed by wet-nurses.

Selling Bodies to Medical Schools.—The grave-digger of a Chicago almshouse has been discharged for disinterring the bodies of paupers buried in the infirmary cemetery and selling them for $25 apiece to certain physicians.

Dr. Israel I. Buckbee, of Fonda, N. Y., celebrated his golden jubilee of medical practice on September 10th, the event being marked by a banquet given him by the Montgomery County Medical Society.

An Army Medical Board will be in session in New York City, N. Y., during October, 1890, for the examination of candidates for appointment in the Medical Corps of the United States Army, to fill existing vacancies. Persons desiring to present themselves for examination by the Board will make application to the Secretary of War before October 1, 1890, for the necessary invitation, stating the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from whence they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates, based on personal knowledge, from at least two physicians of repute, as to professional standing, character, and moral habits. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a regular medical college, as evidence of which his diploma must be submitted to the Board. Further information regarding the examinations may be obtained by addressing J. H. Baxter, Surgeon-General U. S. Army, Washington, D. C.

Dr. Robert Alexander Manwaring, of New London, Conn., died on September 1, at the age of seventy-nine years. He was born on August 11, 1811, and was descended from two old colonial families. His father was a friend of Jefferson and Jackson, and his mother was Mary Wolcott, granddaughter of the Oliver Wolcott who was a signer of the Declaration of Independence. Dr. Manwaring was a classmate of Oliver Wendell Holmes, and they always kept up their school-time friendship. He was, for nearly fifty years, one of the leading physicians of Eastern Connecticut. He married Ellen Barbour, daughter of Congressman Barbour, of Conneticut. She and one son survive him. Dr. Manwaring was a true type of the old-time family practitioner; not learned, in the modern scientific acceptation of the term, but thoroughly practical, and always well up to the latest advances in medicine. He was a gentleman and a conscientious physician, and of a most kindly disposition, very modest and retiring, yet not afraid to maintain his views when he believed he was right.

A New Hospital Building in Cleveland.—Plans have been drawn for a new building for St. Alexis Hospital, in Cleveland. The hospital is under the care of the Franciscan Sisters.

The Pennsylvania and Maryland Union Medical Association held its thirteenth annual reunion at Highland Park on August 28th.

The Mountain Side Hospital is the name of a new hospital which it is proposed to erect in Montclair, N. J. The towns of Bloomfield, Caldwell, and Verona will be interested with Montclair in the establishment of the institution. It is proposed to locate it on or near the township line of Bloomfield and Montclair. It is to be governed by a board of managers of twenty-one ladies from Essex County.

Yellow Fever at Port Limon.—The New Orleans Board of Health recently called the attention of the State Department to a report that yellow fever was prevalent at Port Limon, Costa Rica, and that the United States consular agent at that port had neglected to report the disease. A reply was received from Acting Secretary of State Wharton, acknowledging receipt of the Board's communication, and stating that the consul at San José had been instructed to investigate the matter. The report of the latter has not yet been made public.

Foreign Medical Students in Paris.—During the school year of 1889–90 there were 822 foreign students in the medical school in Paris. Of these 6 were German, 51 English, 7 Austrian, 7 Belgian, 8 Bulgarian, 34 Spanish, 34 Greek, 6 Dutch, 12 Italian, 18 Portuguese, 85 Roumanian, 261 Russian, 20 Servian, 25 Swiss, 71 Turkish, 159 American, 10 Egyptian, and a smaller proportion of Swedish, Persian, and Australian students.

A Strike of Hospital Internes.—The house-surgeons, dressers, and other students holding hospital appointments in Ghent have "struck" in consequence of the insulting treatment of the directors and council of the hospitals. This action of theirs was taken with the approval of the staffs of the hospitals, most of the members of which are professors or lecturers appointed by the University. The "striking" students, not wishing that any harm should happen to the patients, seem to have offered the council to carry on the necessary work pending the settlement of the dispute. Indeed, all that they demanded was that in the future they should be responsible to the permanent professional staff only. However, the council immediately issued notices inviting applications for the vacant posts. There being a thoroughly good understanding between those who resigned and the other senior students, it is unlikely that a single one of the latter gentlemen will accept any of the posts. The same remark applies to the junior practitioners in the town, and to the men recently qualified who still frequent the hospital.—*Hospital Gazette.*

A Fat Woman.—A girl, aged nineteen, and weighing 470 pounds, has recently died in the quartier de Plaisance, Paris, from an attack of erysipelas. She was 5 feet 7 inches in height, and measured 88 inches around the waist, 35 inches around the arm, and 42 inches around the thigh at the junction of the upper and middle third.

The Béhies Pathological Prize.—The Faculty of Medicine of Paris has been authorized to accept a legacy of 30,000 francs bequeathed by Madame Béhies to found a biennial prize for the best work on a given question of medical pathology.

Dr. Charles Steel Thomson died recently in New Haven, in the ninetieth year of his age, having been born in Tolland, Conn., April 6, 1801. His father, Dr. Gurdon Thomson, was a noted physician one hundred years ago and more, and was an earnest advocate of the cottage system of treatment for the insane. Dr. C. S. Thomson studied medicine at the Yale Medical College, from which he graduated in 1822. Since the death of Dr. John A. McLean, of Norwalk, in 1883, Dr. Thomson has been the oldest living graduate of this department of the University.

The Cholera.—Asiatic cholera now prevails over a pretty large area of the earth's surface, and seems to be increasing steadily both in its intensity and in its extent. It is reported from Spain, Portugal, Egypt, Turkey, Arabia, Southern Russia, Japan, and Batavia. In Spain there are at least five provinces, namely, Valencia, Toledo, Alicante, Castile, and Badajoz, in which the disease exists, and in Portugal the government reluctantly admits that three districts are infected. From Mecca news of the presence of cholera was first received about the end of July, and although quarantine was at once established against the pilgrims returning to Cairo, it was ineffectual or too late, for the disease broke out with considerable violence, and spread thence westward along the shore of the Mediterranean. It is said now that Mecca is free from the disease. In Japan the epidemic is in full sway in many places, Nagasaki being reported as specially afflicted with the plague. France is making special efforts to keep the cholera away from the southern departments, and the French Senate, on August 4th, voted 100,000 francs for the establishment of frontier posts to prevent the entry of cholera into the country. A decree has been passed by the government making it a criminal offence for anyone entering the country from Spain to fail to notify the authorities of the fact. Several Spaniards, among them many ladies and children, have been apprehended for failure to comply with this decree, and have been condemned to varying terms of imprisonment (usually three days) and to pay fines of from one to ten or fifteen dollars. In Spain the physicians are having the usual trouble with the peasants, who oppose all attempts to improve the sanitary condition of the towns, and in some places the peasants have been so threatening in their attitude against the physicians that the latter have been compelled to appeal to the authorities for a military escort. Considerable uneasiness was caused not long ago in London by the report that a patient in the Poplar Hospital was suffering from Asiatic cholera. Upon careful investigation, however, it was determined that the case was simply one of aggravated cholera nostras.

The Association of German Naturalists and Physicians will hold its sixty-third annual meeting in Bremen, on September 15th, continuing in session the entire week. Some doubt has been felt as to the ability of those taking part in the meeting to secure suitable accommodations, all the hotels in Bremen being filled at this time by returning Americans.

A New University in France.—The General Council of the Haute-Garonne has drafted a petition for the establishment of a university at Toulouse, and the mayor of that city has opened a subscription list for the benefit of a medical faculty to be attached to the university.

Intestinal Antisepsis in Apiculture.—It is stated in the *Lyon Médical* that a Mr. Lortet, of that city, has just made a successful experiment with the use of naphthol to destroy the bacteria which develop in the intestine of bees, and cause the disease known among apiculturists as "la loque." Thirty-three centigrammes of naphthol is dissolved in a litre of syrup, to which one gramme of alcohol has been added to facilitate the solution. This syrup is given to the bees in the spring, and often prevents the epidemics which have destroyed so many hives.

Disinfecting Cattle-cars.—The police prefecture of the Seine has ordered that all cars used for the transportation of cattle to the abattoirs of Paris shall be thoroughly disinfected after each trip. The process of disinfection is carried out under the supervision of four veterinary inspectors, and is effected by thorough washing of all parts of the cars with a two per cent. solution of sulphate of zinc.

Leprosy in India.—The question of the proper housing and care of lepers is attracting much attention in India. A public meeting has been held at Bombay, and a committee appointed to consider the matter. The Calcutta Health Society has also addressed the Government, urging the necessity of legislation, and pointing out that all leper asylums should be scientifically regulated, and should be under government control.

Enforcing the Registration Laws.—The Pittsburg Board of Health has recently sent out a circular to the physicians, clergymen, and undertakers in that city, calling their attention to the existing law regarding the compulsory registration of births, marriages, and deaths. The Board proposes in future to enforce the legal penalties for neglect to comply with this law.

Child Suicides.—Since January 1st, 62 children, 46 boys, and 16 girls, have committed suicide in Berlin. Of this number 24 had attained the age of fifteen, 14 their fourteenth year, 9 their thirteenth, while 7 were only twelve years of age, and one had not attained the age of seven. In most of the cases the immediate cause for the act remains a secret, but it is supposed to have been due to exceptional severity on the part of servants or teachers.

Pilocarpin in Dryness of the Tongue.—Extreme dryness of the tongue is, under any circumstances, a very distressing symptom, and one which does not readily yield to treatment while the concomitant cause remains in operation. The sucking of ice or sipping of bland fluids gives but temporary and inadequate relief, and the same may be said of glycerine employed as a paint. In this condition Dr. Blackman has successfully used pilocarpin, one-twentieth to one-tenth grain, in the form of a gelatine lamel allowed to dissolve on the tongue previously moistened with a sip of water. This small dose quickly establishes a moderate flow of saliva which persists for at least twenty-four hours, and is unaccompanied by excessive perspiration. The altered state of the mouth is often described by the patient as being delightful. Due caution in the use of so potent a remedy is advised.—*British Medical Journal.*

The New Grippe.—A doctor at Montmartre announces the second official visit of la grippe, with colors flying. Several modern improvements have been added, making it quite superior to the well-remembered plague of last year. The chief feature of the new visitation is to be a tremendous swelling of the tongue. It will fall hardest on gluttons and gossips, and will establish a suspension of their habitual operations for three days and nights. As a choice between that and the cholera, fastidious connoisseurs may choose the latter, on the principle that to act with dignity is preferable to living in ignominy for seventy-two hours, like gagged shrews of the fourteenth century.

Society Reports.

TENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Berlin, August 4, 5, 6, 7, 8, *and* 9, 1890.

(Special Report for the Medical Record.)

(Continued from page 281.)

SECTION ON INTERNAL MEDICINE.

THIRD DAY, WEDNESDAY, AUGUST 6TH.

Milk Sickness.—DR. J. A. KIMMEL, of Findlay, O., read a paper descriptive of milk sickness, a peculiar disease met with in the Central Western States of the Union. The cause of the disease is not known, but it seems to prevail in parts of the country newly opened up to settlement, and to disappear from those where the soil has been brought to a high state of cultivation. Animals seem to be more liable to contract the disease when they pasture late at night or early in the morning. The affected animals usually remain immovably in one place, or wander around over a limited area slowly, and holding the head close to the ground. The appetite disappears, and obstinate constipation is the rule. A little later the animals begin to tremble, and this continues for three or four days, at the end of which time they usually die, although the disease is not invariably fatal. Oxen and bulls only are affected, cows being immune as long as they give milk. The virus of the disease is apparently eliminated through the mammary glands, for the disease is contracted by men and other animals that drink the milk coming from cows in an infected herd. The symptoms of the disease in man are very constant, and the diagnosis, as a rule, is an easy matter. The first symptom is a feeling of great fatigue, a languor which the patient, no matter how active he may be by nature, is wholly unable to overcome. Following this are anorexia, nausea and vomiting, pyrosis, and obstinate constipation. Excessive thirst is a prominent symptom. There is no elevation of temperature, indeed the latter may even be subnormal, and the pulse is usually unchanged. The skin is dry, tongue moist and coated at the tip. Respiration is difficult and sighing. The thirst is intolerable, but every drop of water that is swallowed is immediately rejected. The abdomen is retracted but is not tender on pressure. Delirium is rarely observed. Little by little the prostration becomes more marked, the patient can move neither hand nor foot, even the eyelids become immovable, and finally the patient dies in coma. The duration of fatal cases is from fifteen to twenty days, as a rule, but when recovery takes place it usually does so in from five to ten days, but convalescence is apt to be very prolonged and tedious. Milk sickness is clearly distinguished from typhoid fever, malarial affections, and gastro-enteritis by the entire absence of fever. It is possible, however, to have malarial fever exist as a complication, and then, of course, pyrexia would be present. The treatment usually employed consists in the administration of quinine, alcohol, and other stimulants. The disease in man can in almost every instance be traced to the use of milk, or butter made from it, coming from a cow pasturing with other infected cattle. The pathogenic micro-organism of the disease, if such exist, has never been isolated, but Dr. Kimmel believed that the disease was of microbial origin, and that the infecting parasite was similar to that of malaria, since the disease in cattle was contracted in a manner very similar to that of malaria in man.

Isolation vs. Antisepsis.—DR. GRANCHER, of Paris, read a long communication on this subject, in which he related the experience of the physicians of the hospital for Sick Children in Paris, in regard to isolation as a means of preventing the spread of contagious disease. His conclusions were that such measures of isolation were for the most part unnecessary. The speaker was of the firm conviction that contagion occurred usually through the medium of instruments, hands of the attendants, etc., and that the atmosphere played but a very secondary rôle in this respect. According to this theory contagion can best be prevented by strict antisepsis, and the author related a number of instances in which patients affected with some non-infectious disease were kept in the same wards with others suffering from measles and diphtheria, and did not acquire the disease.

Acute Obstructive Diseases of the Lungs.—DR. ANDREW H. SMITH, of New York, read a paper entitled "Some Considerations in Regard to Acute Obstructive Diseases of the Lungs," of which the following is a recapitulation:

1. In acute pulmonary obstruction, the danger being from exhaustion of the *right* heart, the pulse at the wrist does not give reliable indications as to the gravity of the condition.

2. This can be appreciated more correctly by studying the pulmonary circulation by the aid of the pulmonary valve-sound.

3. Marked accentuation of the pulmonary valve-sound indicates a fairly vigorous right heart, laboring to overcome resistance in the pulmonary circulation.

4. Decrease of a previously existing accentuation, with only moderate dyspnœa, indicates decrease of the pulmonary obstruction.

5. Decrease of accentuation with increase of respiratory distress indicates that the right heart is becoming exhausted.

6. Relief is to be sought (*a*) by regulating the diet in conformity with the diminished power of digestion and sanguification; (*b*) by the use of medicines which dilate the arteries and promote a transfer of blood to them from the veins; (*c*) by the inhalation of oxygen gas; (*d*) by artificial respiration; (*e*) in an emergency, by placing ligatures about the extremities in order to retain the blood in them and prevent its return to the heart.

Dr. Smith dwelt at some length upon the necessity of restricting the diet within the limit of what can be fully acted upon by the digestion on the one hand, and the process of hæmatosis on the other; both functions being impaired, the one by the general venous congestion affecting the digestive organs, and the other by the imperfect action of the respiration upon the nutritive material taken into the blood. The circulation of unassimilated material in the blood not only adds nothing to the nutrition and strength of the patient, but is a clog and hindrance to all the vital processes.

The special value of alcohol in this condition lies partly in its being an easily oxidized, and therefore an easily assimilated food, and partly in its action as a vaso-dilator.

The use of this latter class of remedies is recommended not only on theoretical grounds, but from actual experience as to their value.

Chyluria.—DR. WILLIAM H. MYERS, of Fort Wayne, Ind., read a paper on non-tropical and non-parasitic chyluria, and reported a case which he had observed. Dr. Depouser, of South Carolina, had recently reported twenty-eight similar cases, and the question arose whether this disease were perhaps advancing from tropical countries to more northern latitudes.

DR. GRAINGER STEWART, of Edinburgh, had seen a case with Dr. Buchanan, of Glasgow, which was precisely like that reported by Dr. Myers. The secretion resembled milk so closely that a cat went up to the vessel containing it and started to drink it.

FOURTH DAY, THURSDAY, AUGUST 7TH.

Treatment of Diabetes.—DR. F. W. PAVY, of London, opened the discussion on this subject. The first point to be considered was the true nature of the disease. It consists in a certain deviation from health, whereby the carbohydrate principles are not consumed and utilized in the system, but remain as carbohydrates, and are

eliminated as such. The sugar is not formed in the kidneys, but exists already in the blood. That is to say, diabetes mellitus is the expression of a coexistent glycohæmia. This glycohæmia is due to the fact that the sugar enters into the circulation under a form which it ought not to have, so that it cannot be removed from the blood during the passage of the latter through the liver. The danger in diabetes does not lie in the fact that a material which ought to be turned to account in the system runs to waste; if that were all, there would be no reason why as much sugar and starch as the individual might want should not be injected and then allowed to run off. What in reality inflicts the harm is the altered constitution of the blood, occasioned by the presence in it of the sugar which passes through the system to be excreted with the urine. In proportion to the largeness of the amount of sugar thus traversing the system in the blood, so will be the extent of deviation from the natural state, and so, in consequence, the impairment of health that will be found to exist.

The class of cases to which these remarks apply is that in which the discharge of sugar is susceptible of control by treatment, and the class embraces the majority of the cases in which the disease sets in after the middle period of life. In such instances, starting with the ingestion of carbohydrate, there follows, briefly summarized, as a consequence of the want of proper transformative or assimilative power within the system, an accumulation of sugar in the blood, attended with its discharge by the urine. Accumulation of sugar in the blood leads to the production of symptoms proportionate in severity to the deviation from the natural state. The plain object before us is to reduce this deviation as far as is found to be possible.

As long as the passage of sugar through the system is prevented no harm takes place. In the course of all his experience in diabetes Dr. Pavy had never known anything serious to arise as a part of the disease so long as the urine was kept free from sugar. There is nothing, in fact, to form the source of trouble, seeing that there is not the abnormal presence of sugar in the circulation to occasion deviation from the healthy state. On the other hand, when sugar is passing through the system, not only are there to be observed the symptoms ordinarily consequent thereon, but a constant state of insecurity exists, from the danger of the supervention of the serious issues known to follow upon the disease. Moreover, with the unnatural state occasioned by the presence of sugar, nutritive action is not carried on in such a manner as to properly maintain the strength. As a consequence, the general power becomes sapped or prematurely exhausted, and the system weakened and rendered less able to resist the effect of pernicious influences. Such is not the position when sugar is not similarly traversing the system. Indeed there is nothing then to render the state essentially different from that ordinarily existing.

The first consideration in the treatment is to control by dietetic measures the passage of sugar through the system. The real point, however, to be aimed at, is to restore the assimilative power over the carbohydrate elements of food, and until this has been accomplished it cannot be said that a cure has been effected, but only that the disease is held in subjection and prevented temporarily from leading on to an unfavorable issue. What most conduces to this desired restoration of assimilative power is the maintenance of a normal state of the system by keeping it free from the passage of sugar through it, and in this way bringing a healthy condition of body to bear in helping to promote a removal of the faulty state.

The medicinal agents which are able to effect most in the way of an actual cure of the disease are opium and its derivatives, morphine and codeine.

The influence of these agents may be witnessed in cases where the sugar has been brought down by diet to a certain point, but cannot be entirely removed from the system by dietetic treatment alone. Complete removal may then sometimes be observed to follow the subsequent administration of the drug, showing that the medicinal agent has acted in the direction of exerting a restraining influence over the abnormal production and elimination of sugar.

When it is found that the assimilative power has been restored in any given case it is permissible to consider that an actual cure has been effected; but it is always requisite to bear in mind that a weak point has existed, and it is advisable to avoid unduly taxing a power which has previously given evidence of being at fault by allowing the patient to resume the ingestion of unlimited quantities of starchy and saccharine food.

Dr. Dujardin-Beaumetz, of Paris, was unable to be present, but sent his paper, which was read by a member of the Section. He would not discuss the entire question of the treatment of glycosuria, but would confine his remarks to the consideration of the new remedies which had been proposed for the relief of this disease. In the matter of diet, he would not insist too strongly upon the entire withdrawal of bread, but would allow a little crust to those who felt the deprivation very keenly. He had proposed to substitute potatoes for bread, but this could not always be done with benefit. He thought that fruits and milk were injurious, and he would forbid their use entirely, for he had always observed that the amount of sugar in the urine increased at once after the patient began to drink any milk. Alcohol should also be forbidden, and beer should be taken with great caution. On the other hand, tea, coffee, matē, and the preparations of kola-nut exerted a favorable influence upon the course of the disease, and might be allowed freely. He favored the employment of saccharine, and believed that it could be substituted for the glycerine usually given, with benefit to the patient. But diet alone is not sufficient, and we ought to prescribe certain exercises for our patients, though it ought to be remembered that these exercises must never be taken to the point of fatigue. Amateur gardening was an excellent form of exercise, and for a woman ordinary house-work was often sufficient. Alkaline carbonated waters are often of the greatest utility. The author was in the habit of prescribing five grains of carbonate of lithium and two drops of Fowler's solution in a glass of Vichy water before each meal. The medicinal therapeutics of the disease had recently been enriched by the addition of all the new antipyretic analgesics, at the head of which he would place antipyrine, although identical effects could be obtained by the administration of phenacetine, acetanilide, and exalgine. Antipyrine should be prescribed in daily doses of from thirty to sixty grains. He would not insist upon the maintenance of a strict diet after the sugar had disappeared from the urine, but would then allow potatoes, bread, and fruits in moderation.

Dr. Seegen, of Vienna, said that it was necessary to distinguish two forms of diabetes mellitus, one in which sugar appears in the urine only after the ingestion of saccharine and starchy food, the other in which the elimination of sugar is entirely independent of the kind of food consumed by the patient. In the first case the sugar is the result of the transformation of the materials taken into the system, the liver having lost the power of converting them into glycogen; in the second it depends upon the fact that the tissues have lost their power of decomposing the sugar contained in the blood. The first variety is compatible with a long life, while the second is rapidly fatal. We do not as yet know why in one form the cells of the liver, in the other the cells of the tissues, have lost their power of dealing with the sugar contained in the blood. Fatty and albuminous foods alone should be allowed to the diabetic, although it is sometimes permissible to give green vegetables, fruits, and a couple of ounces of bread a day. Wine in moderation, may be taken, and also a little beer. When a person suffering from diabetes has received a traumatism of any kind, or when he is to undergo a surgical operation, he should be restricted to a purely meat diet. The speaker did not believe in a permanent cure of the disease and thought that a person once diabetic should always observe the

greatest caution in the matter of diet. Arsenical waters and a residence in warm countries were often of great service. In the second variety of the disease the suppression of saccharine foods tended to diminish the excretion of sugar, but it could never prevent it entirely, and it was hardly worth while to impose a strict diet of this kind upon one for whom it could be of so little service.

Dr. Cantani, of Naples, said that he had obtained a number of real cures of glycosuria, the reason for which was probably that, in Italy, diabetes was very often of alimentary origin, and this form was much more amenable to treatment than that resulting from nervous influences. He was accustomed to give fats in abundance, together with meat, eggs, and fish, but did not allow the use of milk.

Dr. Lépine, of Lyons, recalled the results of experiments showing the absence of the glycolythic ferment in animals from whom the pancreas had been removed. Undoubtedly many cases of diabetes in man depend upon a hyperproduction of sugar, but even in those he thought that much good might be expected from the absorption of the sugar ferment, if this could be brought about.

Etiology of Diabetes Mellitus.—Drs. De Renzi and Enrico Reale, of Naples, presented a joint communication, of which the following were the conclusions: 1. Diabetes may be produced experimentally by the extirpation of various organs, which, mentioned in the order of their importance, are the pancreas, the duodenum, and the salivary glands. 2. Glycosuria is produced in animals after total extirpation of the pancreas in seventy-five per cent. of the cases. 3. Clinical observation has shown that very grave diabetic symptoms follow the suppression of the salivary secretion, and the authors' experiments were confirmatory of these observations. 4. It is very probable that there exists in the organism a ferment occurring in varying amounts in the different organs, which ferment destroys sugar. 5. The treatment of diabetes should be chiefly dietetic, the best diet consisting of green vegetables and meat in proper proportions.

Dr. Minkowski, of Strassburg, said that the experiments conducted by Dr. v. Mering and himself went to prove that many cases of diabetes arise from disease of the pancreas. It is upon the extent to which this organ is affected that the gravity of the glycosuria depends.

Fifth Day, Friday, August 8th.

Myxœdema.—Dr. Ord, of London, was appointed to open the discussion of the subject. He said that, in a previous communication, Sir William Gull had made the assertion that myxœdema was a special disease of women, but the author's studies has shown the incorrectness of this. Among the cases collected by him at least ten per cent. had occurred in men. Several of the cases seemed to be hereditary in their nature. The symptoms were somewhat inconstant and are often observed to vary from one time to the other. The swelling of the skin, the speech, and especially the nervous symptoms are liable to very great and striking variations, and it is on this account necessary to study a given case with particular care in order to arrive at a correct diagnosis. Thus, in a certain number of cases the appearance of myxœdema is preceded by hypertrophy of the thyroid body, which, however, will be found to have disappeared at the time that the patient comes under observation. The author had seen one case in which the first signs of the disease were complicated with the symptoms of exophthalmic goitre. A marked tendency to hemorrhages constitutes one of the great dangers of the disease. The anatomical lesions may be divided into two groups, viz., the alterations in the thyroid body and those of other organs. In all cases, whatever the other lesions may be, the structure of the gland itself is wholly destroyed. As to the changes in the other organs, the author believed that there was a connective-tissue hyperplasia not only on the skin, but also in all parts of the body, which hyperplasia modified profoundly the structure, and consequently the function of the different organs.

Origin of the Term Myxœdema.—The speaker said that he had given the name myxœdema to this disease for two reasons: First, because the thickening of the skin is elastic and does not pit on pressure, and secondly, because in the first case that he had had the opportunity to examine post mortem he had found a large excess of mucin in the tissues. Further examinations had not, it was true, confirmed his early belief that the presence of large quantities of mucin was always to be noted, for it had been found that this depended much upon the stage of the disease as well as upon other causes. The author then referred to the experiments of Horsley, made to determine the consequence of removal of the thyroid gland in animals. These experiments would seem to show that symptoms identical with, or at least very analogous to, those of myxœdema followed the extirpation of this gland in animals, and especially in monkeys. The subsequent progress of the induced disease was dependent to a great extent upon the condition of the surrounding atmosphere, heat retarding and cold hastening the development of the symptoms of myxœdema. Dr. Felix Semon has shown that the special condition noted after extirpation of the thyroid gland, and described in Switzerland under the name of cachexia strumipriva, is identical with myxœdema, and might with propriety be called operative myxœdema. Sporadic cretinism is the same disease as myxœdema, but while the latter affects adults, the former attacks only infants, or may indeed be congenital. In these children a stunted growth, both mental and physical, is superadded to the ordinary symptoms of myxœdema. Analogous relations also exist probably between endemic cretinism and lesions of the thyroid gland. In all cases the first cause of the symptoms seems to be the loss of function in the thyroid body. In concluding, the author referred to the efforts which had been made to cure the disease by means of medicinal remedies and change of climate, and spoke especially of the recent experiments in transplanting portions of the thyroid body from the lower animals, believing that there was much to hope for in this direction, though it was too early as yet to express any decided opinion as to the real value of this procedure.

Dr. Mosler, of Greifswalde, said that the first speaker had so thoroughly covered the ground with his excellent thesis that there remained very little to be said on the subject. Extirpation of the thyroid body had one of two consequences, either an acute one (tetanus) or a chronic one (myxœdema). In certain cases in which these signs do not appear, there is either an accessory thyroid body or else the entire gland has not been removed. It is not, however, the diminution of the size of the gland that determines the peculiar symptoms, but rather the injury to the function of the organ. Progressive induration of the glandular tissue gives rise to chronic myxœdema. He then exhibited a photograph of a woman, fifty-six years of age, suffering from myxœdema. It was the perfect picture of an idiot, with an apathetic look, and with eyelids swollen and half-closed. On the face, neck, trunk, and extremities, and even on some portions of the mucous membrane were seen the characteristic swellings which have to the touch the consistence of gelatine, and are due to the formation of mucin in the subcutaneous connective tissue. The patient was now beginning to have much trouble in walking. Dr. Mosler also showed for comparison a photograph of the same person which was taken only ten years previously. There was not one feature in common in the two pictures.

Dr. Leube, of Erlangen, had observed a case of a woman from whom the thyroid had been removed, in whom, besides the ordinary symptoms of myxœdema, there was an unusual scaliness of the skin, recalling the appearance presented by ichthyosis. This peculiar change in the skin passed away in the course of a few months.

Dr. Grainger Stewart, of Glasgow, had seen one case of myxœdema complicated with mitral stenosis. This patient had a constant itching, and there seemed to be an actual improvement in the disease following the scratching which he was driven to keep up without intermission.

Dr. Gerhardt, of Berlin, had seen three cases in each of which there was a cold feeling, and relief to many of the symptoms was obtained by warm applications. The symptoms of iodism, so called, often arise, not from the action of iodine but from the rapid action of that drug upon the thyroid gland. That this is so is shown by the fact that the identical symptoms are often observed in patients in whom a rapid decrease in the size of the thyroid gland has been obtained by parenchymatous injections of alcohol into the gland. When the thyroid is rapidly destroyed tetanus is apt to occur, and when its disappearance is more gradual myxœdema is the result.

Dr. Baeumler, of Freiburg, said that he often saw cases of hypertrophy of the thyroid gland in the region where he practised, but he had never seen any of the symptoms of myxœdema in these individuals. In Southwestern Germany cases of myxœdema are not seen, yet it is not uncommon to meet with cretinoid persons in whom there are to be seen swellings on the skin of the face recalling the appearance presented by true myxœdema. He had recently seen a young girl in whom the entire thyroid gland had been extirpated. She developed tetanus, and died of purulent pericarditis.

Dr. A. Hanau, of Zurich, had examined the thyroid body in three cases of adult cretins. There was a conjunctive hyperplasia with glandular atrophy. The interlobular tissue was thickened, and so was the tunica externa of the arteries. The glandular atrophy was manifested by a disappearance of the epithelium in certain of the vesicles which no longer contained any of the colloid matter; in others there was a pavement layer resembling endothelium; in others only leucocytes were found; in others again, only a few atrophied cells. In all, however, some normal vesicles were found, even in those which seemed to be entirely transformed into connective tissue.

Cretinism and Myxœdema.—In comparing cretinism with myxœdema, pathologically, Dr. Hanau said there were but two points of difference to be noted, namely, that in the latter the process is much more rapid, as is shown by the abundance of leucocytes, and that in it also the epithelium disappears wholly. From a study of the lesions in the thyroid one is led to believe that cretinism is a result of the suppression of the functions of the thyroid body, in this respect being closely related to both spontaneous and operative myxœdema. The clinical differences between the three conditions seem to depend upon the age of the patient, and the mode of destruction of the gland, which is immediate in operative cases, rapid in myxœdema, and slow in cretinism, and upon the fact that the destruction of the gland is total in myxœdema and only partial in cretinism. The latter fact explains why cretins often live for a long time, while those suffering from myxœdema die within a comparatively short period.

Dr. Ewald, of Berlin, had observed a case in the Augusta Hospital which during life was supposed to be suffering from myxœdema. After death, which occurred rapidly, nothing was found except an enlargement of the thyroid gland, which was found on microscopical examination to present the lesions of inflammatory swelling and alveolar degeneration. The author thought that we still had much to learn concerning the nature and cause of myxœdema.

Dr. Fletcher had made eight autopsies on cases of myxœdema, in all of which he had found a large amount of mucin in the blood.

Treatment of Anæmia.—Dr. Laache, of Christiania, opened the discussion on this point, in which he said that the sole indication for the administration of iron was the existence of true primary chlorosis. The continued employment of preparations of iron is not advisable, and yet relapses are very common as soon as the use of this drug is discontinued. It is very possible that the vascular changes noted by Virchow may have much to do with the occurrence of these frequent relapses. Arsenic gives good results in cases of progressive pernicious anæmia, but here, too, relapses are not uncommon. It is also necessary, before passing final judgment on the value of any remedy in this disease, to remember that spontaneous recoveries sometimes take place. For this same reason it is always well to be guarded in the prognosis of a case of anæmia, even though it be of extreme severity and accompanied by frequent fainting spells. The mode of action of arsenic is as little understood as is that of iron. We know, however, that in the cases in which iron is useful (chlorosis), the hæmoglobin is reduced in amount both relatively and absolutely, that is to say, the globules are reduced in number and are also pale in color. In cases of pernicious anæmia, however, in which iron is of no service, the hæmoglobin is only reduced in so far as the number of red blood-corpuscles is less, the corpuscles themselves being of normal color and containing the correct proportion of this principle. It would seem, therefore, that the iron acts in a special manner upon the hæmoglobin. In certain cases, the so-called fecal anæmia, purgatives are of undoubted service. This form of the disease is probably due to a chronic poisoning by the fecal matter remaining in the intestine. As to the utility of inhalations of oxygen, authorities are not at all agreed. In pernicious anæmia, or in that form which remains after exhausting hemorrhages, transfusion is often of real service.

St. Gothard Tunnel Disease.—Dr. Bozzolo, of Turin, said that he had seen a great number of cases of St. Gothard anæmia, caused by the presence of the ankylostomum duodenale. This form differs somewhat from other varieties of pernicious anæmia, among other respects by the complete absence of retinal hemorrhages. For the cure of this disease Perroncito had employed the extract of male fern with success. The speaker had had good results with thymol given in doses of two or three drachms a day. Most of the patients so treated recovered rapidly after the evacuation of large numbers of the parasites.

Treatment of Diphtheria in America.—Dr. A. Jacobi, of New York, read a paper on the "American Therapeutics of Diphtheria," in which he outlined the methods most favored by authorities in this country. Special attention, he said, was paid to prophylactic measures. He referred to the use of chlorate of potassium and tincture of iron, and then mentioned the remedies most commonly employed in the local treatment of the throat. Gargles were useful at times, but they were being very generally supplanted by nasal injections. Alcohol should be freely given, and its administration should be begun early, so as to anticipate the ever-threatening heart failure.

The author spoke of the effects of mercury on this disease, and then alluded to the operative treatment by intubation, which had in a measure supplanted tracheotomy because of the rapidity, bloodlessness, and efficiency with which it can be performed. In every case, isolation is enforced, fluid food given, moderate stimulation resorted to, and absolute rest enjoined, even the nasal injections being made with the patient in a recumbent or semi-recumbent posture.

Pseudo-Microbes in Human Blood.—Dr. Kollmann, of Leipsic, read a paper in which he reported having observed in normal blood, obtained under the strictest antiseptic precautions, a number of small bodies, some of which were barely visible as minute points, others of a round or elongated shape and about one-half of a micromillimetre in diameter. Others again had the form of cocci, diplococci, streptococci, bacilli, etc., and had very active movements. They were without doubt the remains of the red blood-corpuscles or of the disintegrating white globules. Examination with staining agents, as

well as culture experiments, showed clearly enough that they were not micro-organisms. The speaker thought it not improbable that the supposed malaria bacillus of Tommasi-Crudeli and others were of similar origin.

Dr. Tito Gualdi, of Rome, said that some of the bodies described by Klebs and Tommasi-Crudeli were undoubtedly of artificial origin, but there was also no doubt of the existence of a malarial plasmodium, which is found nowhere else than in the blood of patients suffering from malaria. It is impossible at the present day for anyone with even a very moderate experience to confound these two forms, which are totally distinct the one from the other.

Sixth Day, Saturday, August 9th.

Splenotyphus.—Dr. Eiselt, of Prague, read a paper with this title, in which he described a form of typhoid fever where the mass of the infective material was found in the spleen rather than in the intestine. The author distinguished three clinical forms of the disease. All the varieties, however, are clearly marked off from the intestinal form of typhoid by the entire absence of intestinal symptoms, by the presence of an enlarged spleen, and by a peculiar temperature curve.

First form: Large splenic tumor, with adhesive or exudative perisplenitis, either confined to this region or spreading to other portions of the peritoneum.

Second form: A rapidly enlarging spleen, often attaining an enormous size, not infrequently caused by hemorrhages within the organ. There is a continuous fever of considerable intensity, lasting from six to seven weeks, and not infrequently returning after a week or two of apyrexia, and then remaining as long as the spleen continues enlarged.

Third form: Spleen considerably enlarged, with a high fever which assumes a relapsing or intermittent form, coming and going at intervals of about a week, but never accompanied by the presence of spirilla in the blood.

The true typhoid nature of this disease is shown by the fact of infection, and by the discovery at autopsy of a few isolated ulcers in the ileum.

Treatment of Chronic Diarrhœa.—Dr. Eccles, of London, presented a communication on this subject, in which he recommended absolute repose, a restricted diet, the maintenance of an equable temperature in the patient's dwelling, and the employment of massage. He also spoke highly of the action of salol, which he was in the habit of giving in moderately large doses. Under the action of this remedy the stools diminish in number and become more consistent.

Treatment of Dysentery.—Dr. v. Schroeders, of Valparaiso, read a paper on this subject in which he held that the treatment of dysentery with large doses of ipecac was as certain in its effects as the treatment of malaria with quinine. The most severe cases of dysentery can with certainty be cured by this means, and even the various complications can also be cut short. The patient should be kept during the day on a rather restricted fluid diet, and in the evening should receive from one-half to one grain of opium. When he has begun to come under the influence of this drug, as shown by drowsiness, the ipecac should be given in capsules in the dose of from thirty to sixty grains, very little water being allowed with it. The good effects of the remedy are seen immediately, and the following day the patient is found to be nearly well. If vomiting should have occurred, the same process ought to be repeated on the following evening. If there is still some mucus in the stools, an injection may be given of from sixty to ninety grains of ipecac in a pint of water. This mode of treatment is the ordinary one in use in South America, and has superseded all other remedies. The speaker related the case of a lady who had suffered from dysentery during a voyage from Valparaiso to Hamburg and return, and who was cured definitely by a single dose of ipecacuanha.

Diagnosis of Abscess of the Liver.—Dr. Pel, of Amsterdam, presented a communication in which he laid down certain rules to assist in the diagnosis of this condition. In arriving at a diagnosis we must consider the objective and subjective symptoms and the etiology. Among the objective signs to be taken into account are the fever and the enlargement of the liver. The subjective symptoms are pain in the region of the liver and in the right shoulder, mental depression, anorexia, insomnia, and emaciation. A determination of the cause is of great moment; among the etiological factors are a residence in the tropics, gall-stones, typhoid fever, traumatism, echinococcus cysts, and dysentery. Not uncommonly, however, it is impossible to discover any cause for the abscess in cases where a residence in tropical regions can be excluded. There are, furthermore, some cases of abscess of the liver, centrally situated and small in extent, in which the symptoms are so obscure that it is not possible to make a diagnosis.

BRITISH MEDICAL ASSOCIATION.

Fifty-eighth Annual Meeting, held at Birmingham, England, July 29, 30, 31, and August 1, 1890.

(From our Special Correspondent.)

(Continued from page 284.)

SECTION IN SURGERY.

Second Day, Thursday, July 31st.

Operative Treatment of Acute Intestinal Obstruction Due to Internal Strangulation.—Mr. Greig Smith, of Clifton, read a paper on this subject. He remarked that to surgery alone could we look for a cure in these cases. Valuable time was often wasted in the administration of drugs. There were many elements to be considered in acute obstruction: The mechanical constriction of the bowel might be caused by the kink of a portion of gut sharply bent upon itself (illustrated by a soft elastic tube); the general state of the patient and his ability to bear operation; the condition of the intestinal tract, and other points, the neglect of which in any particular might cause the death of the patient as surely as if he were left alone. Every detail of the schools must give way to the prime object of saving human life. What we wanted was physiological rather than anatomical surgery. The medical and physiological surgeon might not be dainty in his operations; but, on the other hand, the proceedings of the rigid anatomist often resembled those of the post-mortem room. The degree of virulence of obstruction must be considered; its duration was a probable, but not a safe guide, and the same might be said of sensibility. The character of the vomiting was not of great importance. It was certainly wrong to make fecal vomiting a plea for operation, and *vice versa*. Suppose percussion showed no dulness and there was little or no tenderness. Before operation a nutrient enema should be administered. The incision should extend for two inches below the umbilicus. Inspection enabled the operator to fix on the most likely piece of gut, and by following this up, as a rule, he arrived at the point of obstruction. Special operative procedures he did not purpose to discuss. In an ideal operation the vital powers of the patient would not be exhausted. In a second imaginary case, after a week or more of obstruction, the patient's strength was waning. Fluid was gradually replacing gas inside the elastic tubes. The stomach was getting exhausted. The distended coils of bowel were visible through the abdominal wall. Here the struggling under anæsthesia would be full of risk. He would wash the stomach out and give chloroform only long enough to allow of the abdominal incision and the fixing of sutures. The rest of the operation could be done painlessly. In the worst cases, where the patient could not stand an anæsthetic, he would trust to local anæsthesia, as cocaine. After removal of obstruction the gut is left paralyzed. Mechanical obstruction occurred

every few inches from the kinks at its numerous flexures; to remove this, intestinal evacuation and drainage were necessary, the surgeon remaining at the bedside several hours, if necessary, for this purpose. The bowel being punctured with a hollow needle, at first there would be free flow of fluid; this continued until the abdomen was quite flat. The bowel was then closed with a continuous suture, and returned, it being unnecessary to fasten it to the skin. It was wiser to perform enterostomy than to make a prolonged search. Enterostomy or intestinal drainage would often save life, even in apparently hopeless cases. The bowel might be caught and fixed with quilled sutures and drained. No operation required more rapidity of thought and action on the part of the surgeon.

Mr. Mayo Robson, of Leeds, quite agreed that we ought never to go to a case of the kind with preconceived notions. He had had personal experience of fifty cases, but, speaking generally, he thought statistics were not of much good. Treves said that forty per cent. of lives are saved, but he felt perfectly certain that if all cases of operation for acute obstruction were reported, the percentage would be much less. To wait was as great an error as delay in dealing with strangulated hernia. The more he saw the more certain he felt that it was often utterly impossible to diagnose. He had a rude shock of this kind in the case of a lady who felt sudden pain in the abdomen after a strain, followed by vomiting and all the symptoms of intestinal obstruction. On opening the abdomen he found a cancer of the transverse mesocolon, which must have been there for some time. It had been proposed after finding cancer to turn the patient over and perform a lumbar colotomy. This course he objected to, as it involved a long and tedious double operation. He had opened the abdomen under cocaine in a patient of seventy. No pain was felt, the obstruction was removed, and the patient recovered. Under an anæsthetic she would have died. In one case, where patient could not stand a prolonged search, he pushed in a large trocar. Where the whole of the bowel had been turned out, recovery rarely takes place. He predicted great future success in these operations. If operation be done early there was plenty of time to explore. If called in, say about the tenth day, all that could be undertaken was a very modified operation under local anæsthesia. Unfortunately, laparotomy was looked on too often as a last resort. The surgeon should learn to say "No" to the temptation to explore every abdomen when laid open. His aim should be to attempt relief first and cure afterward. Tapping through the belly-wall did not need notice. Opium undoubtedly relieved the pain, but lulled both patient and surgeon into a position of false security. Bell wished opium had never been known.

Mr. Kendal Franks, of Dublin, said that the operation was practically on the same ground as that for strangulated hernia, and the day of drugs was gone. Most hospital surgeons now preferred the knife to taxis. There was no particular reason why intussusception should always be the fatal operation it now was, any more than in strangulated hernia.

Mr. Bennett May, of Birmingham, said if we could diagnose beforehand the state of matters inside the belly the task of the surgeon would be simplified. After operations he had often seen the necessity of an operation, if it could have been undertaken without killing the patient. Primary enterotomy he regarded as a retrograde proceeding, except, of course, where it was the only resource; such as cancer of rectum. In operations for internal strangulation results had been appalling. He advocated free incision to admit four fingers, or hand, as an economy of time. He would then pass his hand to the bottom of the pelvis and search for the collapsed coil. When distended bowel could not be reduced, he opened the gut, emptied it, and sewed it up. In obstruction due to peritonitis this proceeding was unnecessary. In his experience the median line was unfavorable for opening the abdomen. The important question was, what the patient would stand.

Mr. W. D. Spanton, of Hanley, forwarded a communication, which was read, in which he stated that he had known cases coming on at menstrual period; it would be interesting to know the experience of other surgeons on this point.

Mr. F. Marsh, of Birmingham, looked on all these cases as practically strangulated hernia. He advised operation the moment there was even a suspicion of obstruction. The change that took place in the patient's condition was rapid. An important point was the cooling of the patient's breath in collapse. He advocated free incision, at least three inches long, for one reason because coils of gut were often adherent to the peritoneum. If he could not find the cause of obstruction after a rapid search, he would perform enterostomy.

Mr. Bowreman Jessett, of London, regretted that Senn and Hutchinson were not present, as their methods were so opposite. He made a great point of preliminary treatment by injections and by washing out stomach, especially in fecal vomiting. The latter proceeding also prevented sickness during and after operation. Where patient was greatly collapsed he would make a small opening into abdomen and perform enterostomy. He had done numerous successful experiments on dogs with Senn's plates. He would begin with a small incision of two inches, to be enlarged if necessary. In opening gut he would incise and not puncture, as the latter would remain open. He related a number of operative procedures, such as implanting the ileum into the transverse colon, and many others, performed with the aid of Senn's plates.

Mr. Butlin, of London, said there could be no comparison between the operation for ordinary intestinal obstruction and herniotomy. In the latter the operation was done early, and was soon over, while the bowel was sound and the results good. Things were exactly opposite in obstruction. The surgeon was sent for commonly as a last resource when drugs had failed. He was opposed to the teaching that it was right to open the abdomen in cases of the least doubt. Such questions of detail as the preparation of patient had been settled for years. At present abdominal surgery was a list of horrors. He himself had had one successful case, operated on the same day as admitted, so that his percentage of recoveries was probably higher than that of many other surgeons.

Mr. Barling, of Birmingham, said that the absence of disastrous records simply meant there was no operation. Inquiry often elicited a history of small intestinal troubles extending over a long period. It should be remembered that we were dealing with atrophied and dilated bowel that could not help itself.

Mr. Greig Smith, in closing the discussion, said he had not gone into such details as preliminary preparation of patient because they were not germane to his paper. As a matter of fact he at once stopped all food and all medicines by the mouth. His operative measures included intestinal drainage, intestinal evacuation, and enterostomy. Out of thirty-five cases he had saved ten, figures on which he hoped to improve. Mr. Butlin had taken up the strong ground that he would always refuse to operate. He himself would refuse no operation. He made an incision into the bowel and drained it, keeping in brandy (two ounces) every two hours. The incision should not be too long, and as near the obstruction as possible. Affected bowel would be full of fluid and low down. Any clear gut presenting he would push aside, and, looking for darker gut, follow it down; tense mesentery was a valuable guide. The surgeon wanted constant practice in the post-mortem room. Groping about with four fingers he condemned.

Operation in Fracture Involving the Articulations.—Mr. Watson Cheyne, of London, read a paper illustrating the importance of operation in complex fractures of joint. Where there was stiffness or displacement, with

loose fragments or extensive comminution of joint, it was better to operate at once and remove or fix the fragments. He did not for a moment advocate cutting into all joints which were involved in fractures, but he wished to show what might be done under some difficult circumstances. He narrated the details of four cases. In one there was a fractured hip. The patient had suffered from infantile paralysis on the other side, so that bony union of the fracture was of importance. As a further complication, she suffered from acute bronchitis, and was unable to lie in bed. The operator accordingly cut down on the fracture, which was partly extra- and partly intra-capsular, and brought together the fragments with ivory pegs passed through the trochanter and head of femur. No drainage-tube was used, and the limb was put up in plaster, with the result of firm union and slight shortening. In another case a boy injured his elbow. On laying open the joint extensive injuries were visible—smashed coracoid, olecranon, and external condyle. The olecranon was wired, and the other parts removed, with good result of a fair amount of movement. Of the two remaining cases, one was fracture of an old dislocated patella, causing stiff knee, which was operated on successfully.

Mr. Kendal Franks, of Dublin, read a paper on the use of massage in recent fractures and dislocations. By emptying serous channels and relieving congestion he claimed that, if applied early, massage would prevent stiffness and adhesions in many fractures. A true economy of time was effected in this way, shortening the period of recovery by one-half. The speaker entered minutely into the physiology of the action. Severe sprains might be cured in from seven to ten days. The method was especially applicable to dislocations, where it removed the serous effusion that prevented the exercise of joints. Several illustrative cases were narrated.

Third Day, Friday, August 1st.

Electric Cystoscopy.—Mr. Hurry Fenwick, of London, read a paper on "The Influence of Electric Illumination of the Bladder upon Our Knowledge and Treatment of Urinary Diseases." He remarked that so much good and useful work had already resulted from the employment of the electric cystoscope as a means of diagnosis in the bladder that there was no necessity for him to vindicate the utility of the instrument. The following pathological preparations, procured from cases in which a diagnosis had been made during life by means of the cystoscope, would still further prove its diagnostic value. He was in the habit of making drawings and models of the condition of things, as revealed by the cystoscope, for the benefit of the general practitioners who sent him cases in consultation. He then showed five specimens of sarcomatous and carcinomatous growths of various sizes taken from the bladder, where post-mortem examination had verified the diagnosis made during life. Following these successful cases were two in which he had failed to make a correct diagnosis—one being a calculus, not revealed by the cystoscope, the other a case of polypus of the bladder, which was discovered by the cystoscope at a later period only, and after repeated examinations. He had come to the conclusion that by intelligent, patient, and dexterous use the cystoscope was of great value in diagnosis. Turning next to the use of electric illumination of the bladder in relation to kidney disease, he had found it afforded valuable indications as to what extent the kidneys respectively were in action. While watching the ureteral orifices much information could be gained respecting the condition of the kidney by noting the rapidity of the flow and the color of the fluid coming from them. Even the density of the fluid could be gauged to a certain extent by noticing the fusion circles produced at the ureteral orifices. Minor points, such as the condition of proptosis of the orifice, could be made use of in diagnosing the state of affairs beyond the bladder. In one case he had been able to diagnose the presence of carcinoma of the kidney by seeing blood emerge from the ureter and coagulate almost in the act of doing so. In cases of ulcerations on the posterior wall of the bladder, with symptoms almost undistinguishable from stone, he had been able to make a definite diagnosis. He had seen many such cases where the patients had been cut for stone. This form of ulceration, when not recognized and not treated, passed into the true tubercular condition, which sooner or later involved the ureters and other parts. It frequently happened that the sound did not detect the presence of stone in the bladder. That occurrence was generally due to the presence of sacculi, in which the stone was more or less encysted, or to a swollen state of the mucous membrane, in which small stones were completely embedded. In these cases, where they could not be felt by the sound, they might be actually seen by means of the cystoscope. He referred to an interesting case of this kind in his own practice, in which the bladder was kidney-shaped and a stone rested on a sort of shelf inside the viscus where it could not be felt by the sound, but where it was seen by the cystoscope. With regard to tumors of the bladder, he called attention to some common errors, among them the supposition that simple villous tumors were the most common, whereas the malignant carcinomata were undoubtedly more common than any other kind. Another error lay in the idea that hemorrhage was an earlier symptom in benign growths than in malignant, but according to his experience the reverse was the rule, hemorrhage being of very early occurrence in malignant growths. As other symptoms of the latter he mentioned alternations of comfort and extreme pain, and intermittent cystitis. The origin of vesical growth from the trigone was exceptional, its common origin being from the posterior wall just below the orifices of the ureters.

Mr. Bruce Clarke, of London, read a paper on "Obscure Bladder Affections, and Their Exact Diagnosis by the Cystoscope." He said the value of the cystoscope was greatest in cases presenting exceptional symptoms, for there a correct diagnosis could be followed by appropriate treatment. The following brief notes referred to a case that came under his care in 1887. The patient, a male aged thirty-four, six years previously contracted gonorrhœa, which yielded to ordinary treatment in fourteen days. A year later he had some hemorrhage from the bladder. This passed off and was followed two days later by cystitis with occasional hemorrhage. Both these symptoms lasted from two to fourteen days. This went on for the next five years, when he came under the author's care. The patient was then suffering from cystitis, with unusual loss of blood. On examination with the cystoscope a growth was discovered close to the neck of the bladder; this was removed by supra-pubic operation and the patient recovered completely. Notes were next given of four other obscure cases, namely: 1, Chronic cystitis; 2, epithelioma; 3, encysted calculus, with second encysted calculus after removal of the first; 4, tubercular ulceration. These were all diagnosed by means of the cystoscope, which led to more successful treatment than had before been adopted. While speaking highly of the great value of the cystoscope in cases of cystitis of uncertain origin, he admitted that examination by means of that instrument was not always successful. With regard to the supra-pubic operation, he preferred doing it in two stages, first sewing the bladder to the abdominal wall, and opening it a day or two later. As local applications he spoke highly of a solution of lactic acid, from three to ten per cent., in case of ulcers of bladder with phosphatic deposits; also of a five per cent. mixture of iodoform in mucilage in tubercular ulceration of the bladder.

Mr. Gilbert Barling, of Birmingham, remarked that patients reaped great benefit from the application of the cystoscope. Its utility depended to a great extent on the experience of the operator in its practical use. He referred to four cases in which a diagnosis of malignant

tumor had been made, and operative treatment avoided with advantage, as well as other cases which had been operated on with success. He condemned scraping and the use of evacuators to obtain portions of tumor for examination as crude methods, and detrimental to the patients. He quite agreed with Mr. Fenwick in his statements as to the utility of the instrument in aiding diagnosis of kidney conditions, and also in the recognition of tumors of the bladder at such an early period that operative measures become much more justifiable and successful. Benign growths nowhere became more rapidly malignant than in the bladder, and late operations were always extremely unfavorable. Irritation of the bladder is an early symptom of malignant growth, but hemorrhage is far more commonly a first symptom. He further deprecated the value of the microscopic examination of scrapings, inasmuch as around carcinomatous patches simple villous growths were common, and if a portion of this happened to be procured its examination could only be entirely misleading. He thought the ratio of malignant to simple growths was about four to one. Mr. Bennett May and Mr. Bartleet also joined in the discussion.

Mr. Bruce Clarke bore testimony to the frequency with which villous growths surround an epitheliomatous ulcer, "like rushes round a pond." In cases of stricture and in children he had frequently examined with the cystoscope through a perineal incision made after Whitehead's method. Reference had been made to the bladders of children. In the majority of cases he thought they were due to phosphatic deposits, and were, therefore, not tubercular. They could be readily cured by rest in bed and proper diet.

Mr. Hurry Fenwick, in closing, spoke highly of lactic acid as a wash in slowly progressing ulcers of the bladder. He thought that malignant tumors bore even a higher proportion to benign than four to one.

Operations on the Lateral Ventricles.—Mr. Mayo Robson, of Leeds, read a paper on "Tapping and Draining the Ventricles in Certain Cases of Brain Disease." Looking at the success which has attended opening and draining the abdomen in cases of chronic peritonitis, he had come to consider the question, with what degree of safety can we open the skull cavity in cases of a somewhat similar nature. Thanks to the labors of Ferrier, Goltz, and others, many cases of brain disease were capable of being accurately localized and successfully treated. In those cases of brain disease, such as meningitis, which were not so definitely localized, and which on the supervention of coma become absolutely hopeless, could we not attempt some surgical treatment with a prospect of success? We opened the abdomen and the pleura, why should we not open the skull and tap or drain the ventricles?

He quoted the following case which had come under his charge. A boy, aged ten, with symptoms of inflammatory brain mischief; he had a temperature of 103° F.; right hemiplegia and aphasia; twitching of limbs of right side of body; double optic neuritis, etc. He suspected cerebral abscess or basal meningitis, and decided to adopt surgical measures. A. C. E. mixture was administered and the cranial cavity opened with a 1½-inch trephine over the motor centres on the left side. The brain was non-pulsatile, and no pus could be found. He pushed the needle into the lateral ventricle and drew off ten drachms of clear fluid. Healing went on satisfactorily and the patient showed continual improvement. Six months later he was in good health, but had some convulsive seizures of the right arm. These were relieved by bromides, and the patient is at present apparently in perfect health. Drainage could be continued over longer or shorter periods, as long as the wound was maintained perfectly aseptic. He had drained the spinal canal successfully in several cases of syringomyelocele. He entered into the details of his manner of operating, but these do not differ materially from those usually adopted in operations on the brain. He referred to a case of hydrocephalus which he had treated in a similar way, but without success.

In the discussion which followed, Mr. Bruce Clarke, of London, said he thought the removal of a large quantity of cerebro-spinal fluid a dangerous proceeding. He had drained several cases, but they had all proved fatal, and death had resulted in his opinion from the effect produced on the cerebral circulation by the removal of the fluid. He had operated on two cases of purulent basal meningitis, but he thought that, unless we could devise some means of washing out the cranial cavity, we should not meet with success in these cases. He had given up using the spray and, in fact, did not use any antiseptics at all during the operation, although he did so to the parts previous to commencing.

Mr. Kendall Frank, of Dublin, thought that, as much benefit was derived from simply incising and draining the peritoneum, the same ought to be the case in the brain. He quoted a case in which he tapped the lateral ventricle and drained it, for supposed middle-ear brain disease; the patient died on the fourth day. On making a post-mortem examination he found the ventricle almost empty, containing a little bloody serum, but there was basal tubercular meningitis.

Mr. Wheelhouse, of Leeds, spoke strongly against the practice of tapping the ventricle in chronic hydrocephalus. It had fallen to his lot to do it once in the case of a child, who after it steadily sank and died, and he certainly should never do it again. He thought the three cavities referred to were placed under totally different circumstances. After removal of fluid from the peritoneum the abdominal walls accommodate themselves to the altered condition, and the lung fills up the pleural cavity; but the brain cannot expand to fill up the deficiency left by the withdrawal of fluid, so that we cannot hope for the same success in applying the same kind of treatment to similar conditions of the brain.

Mr. Mayo Robson said that he did not mean his remarks to apply to cases of chronic hydrocephalus, but thought that the treatment was justifiable in those cases which ended in coma, and which were otherwise quite hopeless. He said there were many cases recorded in which cerebro-spinal fluid had drained without any fatal result; it was merely a question of gradual instead of sudden withdrawal. He always used antiseptics, and although he did not think the spray essential, he preferred using it in large public institutions, whereas he dispensed with it in private houses. In referring to Kendall Frank's case of tubercular meningitis, he thought that, as long as it had not reached the purulent stage, there was hope of treating it successfully by surgical proceedings; but once purulent, he could not see how the pus could be washed away.

Mr. F. Marsh, of Birmingham, brought in a cab-driver whom he had shown twelve months ago at the Leeds meeting of the Association. Shortly before that meeting he had performed Madelung's operation on him for a rectal growth, and had also excised the rectum with the growth. The anal orifice was now completely closed and soundly healed. The colotomy anus acted well, with the exception of a tendency to protrusion of the mucous membrane, for which he wore a pad. He was otherwise in perfect health and followed his usual occupation.

Zinc Sulphite in Antiseptic Surgery.—Dr. F. T. Heuston read a paper "On a Non-poisonous, Non-irritative Antiseptic Dressing." Calling attention to the poisonous and irritating nature of many of our ordinary antiseptic dressings, he spoke highly of the value of zinc sulphite ($ZnSO_3, 2H_2O$) as a non-poisonous and non-irritative dressing. It was used in the form of an impregnated gauze; this was tinted red with a vegetable dye. By this means it could at once be seen whether the zinc sulphite had undergone any decomposition, for on wetting it the color disappeared if the sulphite had undergone no deteriorating changes.

Mr. Kendall Frank, of Dublin, had frequently used

the zinc sulphite gauze, and was very well satisfied with it. Under its use wounds had uniformly healed by first intention.

MR. DAVIES COLBY, of London, described a method of closing the hard palate by a new operation. By means of diagrams he demonstrated his method of operating, which was as follows: He made his first incision from opposite the central incisor of one side, carrying it close along the margin of the hard palate to opposite the last molar tooth. Another incision, commenced from the same point as the first, passed backward one-eighth inch from the margin of the cleft to the post-margin of the hard palate. Both incisions reached the bone. This flap was raised with the periosteum and thrown backward and outward. A flap was next raised from the other side by an incision which commenced at cleft opposite central incisor the other side, was carried backward one-sixth of an inch from margin of cleft as far as last molar, curving in to cleft again. This flap was raised and its margin was sewn to the opposite margin of the cleft by two silver wire sutures. The first flap was then carried across the cleft and fixed by wire sutures.

The advantages claimed for this operation were: 1. There was less hemorrhage. 2. Not so much bruising as in old operation. 3. Nothing was cut away. 4. Absence of tension. 5. No sloughing. 6. Upward pressure of tongue was beneficial rather than otherwise. 7. The bridge was strong (mucoperiosteum). 8. It could be done much earlier (one to two years), and thus obviate much deformity.

Its disadvantages were: 1. The hard palate alone was united. 2. The foramen in fore part of cleft had to be closed later, if it did not close by itself.

The soft palate had to be closed later by a separate operation. He recommended this operation: 1. In infants. 2. Where the other had failed. 3. Where the gap was great, the sutures could be left in for from five to six weeks.

Hydatid Tumor of the Liver.—DR. THOMAS EASTES, of Folkestone, narrated a case of "Abdominal Section for Doubtful Tumor, Hydatid of Liver Found and Treated by Incision and Drainage." The tumor was at first taken to be probably of mesenteric origin; on opening abdomen it was found to be a hydatid cyst of liver. It was opened and drained with a successful result.

Operative Treatment of Cancer of the Intestinal Tract.—MR. F. B. JESSETT, of London, read a paper on "The Surgical Treatment of Carcinoma of the Pylorus and Intestines." From pressure of time very little of this important paper was read. It included a full discussion of methods of performing pylorectomy, gastro-enterostomy, enterorrhaphy, ileo-ileostomy, ileo-colostomy, and other operations, chiefly by means of bone plates.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 31 to September 6, 1890.

BAXTER, JEDEDIAH H., Colonel and Chief Medical Purveyor. To be Surgeon-General, with the rank of Brigadier-General, August 16, 1890, vice Moore, retired from active service. Headquarters of the Army, A. G. O., Washington, September 1, 1890.

DE WITT, THEODORE F., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect September 15, 1890. S. O. 76, Headquarters Department of Texas, San Antonio, Tex., September 1, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending September 6, 1890.

WISE, J. C., Surgeon. Detached from Torpedo Station and ordered to the Alliance.

FITZSIMONS, PAUL, Surgeon. Ordered to the Torpedo Station, Newport, R. I.

BRIGHT, GEORGE A., Surgeon. Detached from the Constellation and ordered to the Naval Academy.

ALCOTT, F. W., Assistant Surgeon. Promoted to be Passed Assistant Surgeon.

WENTWORTH, A. R., Passed Assistant Surgeon. Requests to withdraw resignation. Granted.

CRAWFORD, M. H., Passed Assistant Surgeon. Detached from the Monongahela and granted two months' leave of absence.

KEENEY, JAMES F., Assistant Surgeon. Detached from the Richmond and granted two months' leave of absence.

LOUNDES, CHARLES H. T., Assistant Surgeon. Detached from the Naval Academy and ordered to the Richmond.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 6, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	42	15
Scarlet fever	15	1
Cerebro-spinal meningitis	1	1
Measles	70	7
Diphtheria	45	11
Small-pox	0	0
Varicella	2	0
Pertussis	0	0

The Process of Senescence.—At the meeting of the American Association for the Advancement of Science, held recently in Indianapolis, Dr. Minot read a paper entitled "Certain Phenomena of Growing Old," in which he stated that the curve which denotes biological changes is asymmetrical, rising very rapidly in youth and declining gradually as age advances. This form of curve is found in almost all kinds of biological changes. He has already announced his belief that the percentage of growth, which may be taken as an index of vitality, declines from the very beginning of life. The notion, then, that there is not, from a scientific point of view, any distinction to be made between development and decline is the first important point presented.

The second point of the inquiry is, how far any anatomical peculiarities in the organism can be correlated with this gradual loss of vitality. Omitting the usual sen ile characteristics as pertaining only to extreme old age, the paper was mostly a comparison of the youngest with the adult tissues, comprising the germ-layers, outer, middle, and inner, of the embryo. The outer layer forms the external covering of the body; the middle gives rise in great part to the muscles, connective tissue, and skeletal elements, the blood and blood-vessels; the inner forms the lining of the digestive tract.

At first the cells of the outer layer have each a nucleus, and around that nucleus a small amount of protoplasm which, in the child at least, is remarkable for assuming a triangular outline. In the adult the amount of protoplasm is very greatly increased, and the form of the cell changes. This increase in amount of protoplasm relatively to that of nucleus was traced in the second group of tissues in detail, and changes of form were shown in the following order: nerve cells, striated muscles, pancreas cells, cells of thyroid and salivary glands, and of the spleen. In the inner layer also the same changes occur in proportion of protoplasm, increasing as age advances.

He concludes that, inasmuch as the progressive loss of vitality throughout life is attended by a progressive increase in the proportion of protoplasm to nucleus, there must be a relation of cause and effect between these two phenomena; in other words, "protoplasm is the physical sign of advancing decrepitude." Hitherto we have had comparative anatomy and physiology, but of general biology extremely little. Dr. Minot expressed his belief that the future of biology would lead in this direction, and that the study of the organism as a whole would supersede in the near future to a large extent the present study of the separate organs, both in their physiological and morphological aspects.

There is a great deal to be done, for it is only in the domain of general biology that we can seek the solution of the problems of reproduction, heredity, sex, growth, variation, death, the evolution of species, and the general economy of nature. All of these phenomena are common alike to the vegetable and the animal world, and for their thorough study it is necessary that the investigator should be strictly a general biologist, and not merely a botanist or zoölogist. These investigations are necessarily expensive in character, since they require that the animals and plants experimented upon be kept under specific conditions for long periods of time; but it is to be believed that the results which may be obtained will amply justify both the labor and the expense. Dr. Minot expressed the hope that some persons who felt generously inclined to aid in scientific work might give support for this line of work, and in concluding expressed the more general hope that those persons of wealth who wish to contribute to science should feel more and more inclined to endow research, for much more can be accomplished in this way than in any other for the advancement of science.

The Form of the External Ear.—According to Professor Garrison, of Chicago, the crumpled and crushed form of the human ear was originally caused, and is now maintained, by the habit of lying on the side of the head, and that this habit has principally resulted from the great and increasing weight of the brain. The question originally seemed to be whether man's ancestors would profit most by large brains or by symmetrical and perfect acoustic apparatus, and nature by selection had promptly decided in favor of large brains.

Certain Reactions for Tyrotoxicons.—Professor H. A. Weber, of Columbus, O., read a paper on this subject at the recent meeting of the American Association for the Advancement of Science. Through the Ohio State Board of Health and the Ohio State Dairy and Food Commission, the writer had, within the last few years, received numerous samples of poisonous cheese for examination. The samples were tested for tyrotoxicon according to the well-known method as published by Dr. Vaughan. About fifteen hundred grains of the cheese was cut up into small cubes, placed into a percolator, covered with distilled water, and allowed to digest at ordinary temperatures for several hours. The aqueous extract was then withdrawn and more water added, a little at a time, until about one litre of percolate was obtained. This was rendered alkaline with sodium carbonate extract with half its volume of Squibb's ether and the ether allowed to evaporate spontaneously. After complete evaporation of the ether, the aqueous solution was subjected to the following tests:

One drop was added to a mixture of ferric chloride and potassium ferricyanide. In all cases an immediate precipitate of Prussian blue was formed. One or two drops were added to a mixture consisting of a few drops each of carbolic acid and strong sulphuric acid. A reddish-yellow coloration ensued in all cases. On standing for several hours this color changed to permanent violet. The remainder of the aqueous mixture was, at a single dose, given to a small kitten. In no case could any ill effects be observed. Since tyrotoxicon has been shown by Dr. Vaughan to be such an active poison, it was concluded that the reactions mentioned above must have been due to other causes. In looking for these causes it was found that commercial butyric acid could be made to produce both reactions in a satisfactory manner, as will be seen from the following tests:

A single drop of the butyric acid produced only a slight formation of Prussian blue when added to a mixture of ferric chloride and potassium ferricyanide.

With a single drop of the butyric acid the carbolic acid reaction was very marked, the mixture immediately turning bright orange-red, and changing to dark violet on standing.

One-half cubic centimetre of the butyric acid was mixed with 50 c.c. of water and filtered. The filtrate was rendered strongly alkaline with sodium carbonate, extracted with ether, and the ether allowed to evaporate spontaneously. The aqueous residue gave both reactions with marked distinctness.

Again, the last sample of cheese examined was allowed to remain in the percolator. The bottom of the percolator was corked, the cheese covered with distilled water, and the mouth of the percolator covered with a glass plate. After standing four or five days further decomposition had set in. The aqueous extract was then withdrawn and filtered. The filtrate was alkaline and had an offensive odor. It was placed in a flask connected with a condenser, and a portion distilled over. This was done to destroy any tyrotoxicon that might have been present. The distillate was very alkaline, and had a strong, sickening odor of herring brine, probably due to trimethylamine. From this distillate both reactions were obtained, the Prussian blue reaction being especially marked.

The residue left in the flask was removed, acidulated with sulphuric acid, and filtered. The filtrate was again subjected to distillation. The distillate was acid and had a strong odor of butyric acid. It gave no Prussian blue reaction, and only a faint one with carbolic acid. A portion of this distillate was rendered alkaline with sodium carbonate and extracted with ether. The residue gave no reaction whatever with carbolic acid, owing evidently to the fact that the sodium butyrate is insoluble in ether. The remainder of the acid distillate was then mixed with the alkaline distillate obtained above. The mixture was rendered alkaline with sodium carbonate, and then extracted with ether. The aqueous solution now gave both reactions very distinctly.

From these experiments it may be inferred:

1. That the Prussian blue reaction is caused by the presence of an organic base, probably an amine.

2. That the carbolic acid reaction is due to butyric acid.

3. That, when both bodies are present in the same liquid both are extracted with ether from an alkaline solution, probably in the form of a butyrate of the organic base.

4. That both bodies are liable to occur in any old specimen of milk, cheese, or cream.

5. That the presence of these two bodies causes artificial diazo-benzole to give the orange red reaction with carbolic acid, after being extracted from whey with ether, which it does not give before.

Diphtheria in Detroit.—The President of the Board of Health of the city of Detroit, Mich., in his annual report, stated that in nine years two thousand two hundred and fifty deaths from diphtheria had been reported. The inefficiency of sulphur fumes for disinfection was also strongly emphasized.

Very Large Doses of Iodide of Potassium in inveterate syphilis have long been employed by American physicians. In the *Sémaine Médicale* Dr. Wolf, of Strasburg, reports a number of cases in which ordinary doses having proved useless, as much as an ounce and two-thirds per diem was administered. The patients promptly improved under these heroic doses, and their body-weight is said to have considerably increased while taking pounds of the iodide.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 12. **Whole No. 1037.** NEW YORK, SEPTEMBER 20, 1890. **$5.00 Per Annum.** **Single Copies, 10c.**

Original Articles.

SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY.[1]

BY CHARLES STEDMAN BULL, A.M., M.D.,

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THE writer apologizes for presenting this third paper on simple extraction of cataract, and offers as an extenuating plea a more extensive experience in the operation. A previous paper on the subject, based upon the detailed report of one hundred cases, was read before the New York State Medical Association, in September, 1889. Since then the writer has continued to operate by this method on all cases which were deemed suitable for it; and an increased experience, while leading him to modify some of the views previously expressed, has in the main confirmed him in the justice of the claims advanced in favor of the operation. The controversy as to the wisdom or necessity of an iridectomy in the extraction of cataract is still unsettled; but as time goes on and our experience increases, our knowledge upon this point, as upon others, becomes crystallized into something like a positive opinion. It is interesting to compare the views of such men as Schweigger, Sattler, and Meyer, on this subject, as already published. Schweigger starts out with an assumption, in reference to the corneal section, which we all admit, viz., if an incision with a sizeable flap is to be made with the narrow knife, it can only be completed by a to-and-fro sawing motion. Every turn of this narrow knife in the wound makes the course of the incision irregular, and must retard the healing. A smooth healing of the wound means the avoidance, as far as possible, of an irregular corneal curvature, which is generally recognized as the greatest cause of imperfect vision after extraction with iridectomy. He considers that there is great danger of prolapse of the iris after such a flap extraction, and hence he argues that it is better to make the corneal section in the inner margin of the limbus, and not too peripheral. He believes in using a binocular bandage in all cases where an iridectomy is not made, and thinks that the eye should not be opened for three days at least, all drops being instilled in the angle of the lids without opening them. He considers that the disadvantages of a prolapsed iris consist mainly in the great irregularity of the corneal curvature. If the prolapse is large, he cuts it off. If it is small, he thinks it better to leave it undisturbed, for these small prolapses become flattened in the course of cicatrization, with an improvement in the corneal curvature. He believes that the presence or absence of an iridectomy makes very little difference in regard to the acuity of vision, and in so far as this remark refers to central vision, the writer agrees with him, for the latter depends much more upon the irregularity of the corneal curvature caused by the incision. Schweigger uses a capsule-forceps for opening and removing a piece of the anterior capsule. He uses a triangular knife, shaped something like the old Beer's knife, for making the corneal section. This knife is 7 mm. wide at a distance of 30 mm. from the point, and with it he makes a corneal flap 4 mm. in height. In sixty cases of extraction made with this knife, prolapse of the iris occurred in five cases.

Sattler, of Prague, makes his flap include one-third of the corneal circumference, the incision being entirely in the cornea. He also uses a capsule-forceps for opening and removing a piece of the anterior capsule. By the simple method he removes all hard, or homogeneous, or brownish-gray cataracts, and also all immature cataracts which can be removed entire from the capsule. If the case is one in which the cortex is probably friable, and cannot therefore be removed with the nucleus, he always performs an iridectomy. He agrees with Schweigger in the wisdom of not looking at the eye too soon after operation. Sattler has found more corneal astigmatism after the simple extraction than after the peripherical linear extraction with iridectomy, and in this view the writer agrees with him. He prefers the narrow knife in operating.

Meyer also prefers the narrow knife of Von Graefe for making the flap operation, and the narrower it is, the better he likes it. He makes his section entirely in the limbus, and endeavors to remove a piece of the anterior capsule. He exercises great care in bandaging the eyes, and his first bandage is left on forty-eight hours. Meyer makes a good point when he states that with prolapse of the iris incarceration is always left behind, even after complete abscission of the prolapsed iris.

Preparation of the Patient.—If the patient be a hospital case, he should have a bath of the entire body on the morning of the operation, special attention being paid to the cleansing of the hair and beard with soap and water. This is not considered necessary in the case of a private patient. Just before the operation the patient's face should be carefully washed with soap and water, and then laved with a solution of mercuric bichloride (1 to 5,000). A saturated solution of boric acid should then be used for irrigation of the conjunctival cul-de-sac. The patient should be placed in the bed which he is to occupy throughout the entire course of treatment, so as to avoid all unnecessary moving about. This precaution reduces to a minimum the dangers which may arise from prolapsed iris, opening of the wound, loss of vitreous, hemorrhage, etc. The writer attributes to this one precaution, as much as to any other, the immunity from secondary prolapse which his experience shows.

After the necessary local anæsthesia has been produced by a few drops of a five per cent. solution of cocaine hydrochlorate, the conjunctival cul-de sac is again thoroughly irrigated with the boric acid solution, and the patient is then ready for operation.

The instruments are all previously cleansed and sterilized in boiled water and placed in a bath of alcohol. From this bath they are taken, wet, as they are wanted for the operation. The hands of the operator and of the assistant, if he has any, are carefully cleansed with soap and water, and then washed with a solution of mercuric bichloride (1 to 2,000).

The writer sits behind his patient, and operates on the right eye with the right hand, and on the left eye with the left hand. In this way he is never in his own light. If the operator is not naturally ambidextrous, he should strive to make himself so. A speculum is then introduced to hold the lids open, and the eyeball is firmly grasped with a pair of fixation-forceps, the latter being made to seize the conjunctiva and subconjunctival tissue over the insertion of one of the straight muscles of the eye, usually the inferior rectus.

[1] Read before the American Ophthalmological Society, at its annual meeting, July 16, 1890.

A straight, narrow knife, somewhat more slender and delicate than the cataract-knife of Von Graefe, is then introduced on the temporal side in clear cornea, near the limbus, and is passed quickly across the anterior chamber, horizontally, in front of the iris, and is brought out at a corresponding point in clear cornea on the nasal side, and the incision is then completed, if necessary, by a to-and-fro movement. The length of the incision should involve about two-fifths of the circumference of the cornea, and is always an upward section. The incision should be entirely in clear cornea, and the flap should be large enough to admit of the easy extrusion of a large lens. The writer feels sure that a too peripheric location of the corneal section favors both prolapse and incarceration of the iris. The writer never makes a conjunctival flap if it can be avoided, as he regards it as a useless complication, unless the patient has a chronic conjunctivitis or dacryocystitis, and it undoubtedly increases the danger from primary infection by enlarging the wound. Furthermore, in order to make a conjunctival flap the corneal incision must be well in the limbus, and to this is raised the objection already referred to—the greater tendency to prolapse or incarceration of the iris if the wound is peripheric. In making the corneal section care should be taken to pass the knife quickly across the anterior chamber, and thus complete the section as rapidly as possible. This prevents the escape of aqueous almost entirely, and there is but little danger that the iris will fall over the edge of the knife and be divided.

The writer formerly advised that, in case the iris prolapsed outside of the wound as soon as the section was completed, it was better to restore it to its place in the anterior chamber before opening the capsule. This step he now regards as an unnecessary manipulation of the iris that might cause additional bruising in unskilled hands. As a matter of experience, the iris rarely prolapses until pushed out by the extrusion of the lens.

The capsulotome is then introduced and carried well behind the inferior margin of the sphincter of the iris, and the capsule is lacerated by a T-shaped incision, or, better, by a quadrilateral one, care being taken to avoid wounding the iris. The object of the quadrilateral incision in the capsule is not only to make a free opening for the passage of the lens, but also in hopes of effecting a possible removal of this square piece of the anterior capsule with the lens, and this, in many cases, succeeds. The capsule-forceps have also been employed for the purpose of removing a piece of the anterior capsule, and often with success, though not always so. When the latter fails to remove the piece of capsule, the opening made is not sufficiently wide, and must be enlarged with the capsulotome. The speculum is then removed, so as to avoid all undue pressure on the eyeball, and this is to be regarded as a wise precautionary step in view of any possible straining by the patient.

The extraction of the lens then follows. This may be done in two ways, viz.: 1. The upper lid may be lifted up away from the eye by a wire elevator or a broad strabismus hook, and the lens expelled by pressure with a spoon upon the lower portion of the eyeball, and thus indirectly on the lens, backward toward the centre of the eye at first, and then upward and backward. In this way the flap rises, tilts forward, and the lens passes through the pupil with the least bruising of the iris. 2. This may be effected by pressure on the eye above the wound with a narrow spoon or spatula, and counter-pressure on the lower portion of the cornea with a broader spoon. This causes a gaping of the wound and a revolution of the lens upon its horizontal axis, the upper margin of the lens coming forward and presenting in the wound. A brief continuance of this pressure and counter-pressure causes the extrusion of the lens, and a more or less extensive prolapse of the iris.

The removal of the speculum before the extraction of the lens should always be done in cases of complicated cataract; especially when the suspensory ligament is defective and the vitreous disorganized, or the lens partially dislocated.

The next step in the operation is the removal of the remnants of soft lens matter or cortex from the anterior chamber and between the lips of the corneal wound. The removal of the cortex can usually be accomplished by rapid and judicious following up the escape of the lens by pressure with the spoon upon the lower portion of the cornea, and also with the lower lid. If this does not succeed, it is better to make repeated and continuous rotary massage of the lid upon the eyeball, aided by repeated slow movements of the curette, spoon, or spatula over the cornea from below upward toward the wound. These manœuvres should be accompanied by frequent irrigation of the conjunctival cul-de-sac and lips of the wound, and even of the anterior chamber if necessary, by a warm saturated solution of boric acid. Solutions of mercuric bichloride should never be used for irrigation of the anterior chamber, as they cause transient opacities on the internal surface of the membrane of Descemet in the endothelial cells. It is very rarely necessary to introduce any instruments into the anterior chamber for the purpose of removing bits of cortical lens matter. For irrigation of the anterior chamber any small lachrymal syringe may be used, but it should always be sterilized and kept exclusively for the purpose. The nozzle should be carefully introduced between the lips of the wound, and the fluid should be injected very slowly and gently, and in small quantities.

The next step is the replacing of the prolapsed iris, which occurs spontaneously in about half of the cases. Among the first one hundred cases reported by the writer the iris was replaced spontaneously in fifty-six cases. If the iris has not spontaneously replaced itself during the manipulations employed for removing fragments of cortex from the anterior chamber, it may be readily replaced by gently stroking and pushing it within the lips of the wound with a smooth probe or spatula. If on reduction of the prolapsed iris the pupil is neither central nor round, do not make an iridectomy at once, as some surgeons advise, but endeavor, by a careful, gentle, and continuous rotary massage of the eye through the closed lids, to bring about such an absolute replacing of the iris in its normal position as will make the pupil round and central.

The final steps in the operation, before the application of the bandage, are a careful irrigation of the lids and conjunctival cul-de-sac with the saturated solution of boric acid, and the instillation of a few drops of a solution of eserine sulphate (half a grain to the ounce) into the cul-de-sac. The writer again takes advantage of the opportunity to warn against using solutions of eserine of any greater strength than half a grain to the ounce in the eye. He has seen during the past year several bad cases of iritis directly caused by solutions of two and four grains to the ounce of water. In many cases a solution of one-tenth of a grain is strong enough to produce any desired contraction of the iris, and no risk is here run of producing any irritation.

The lids of both eyes are then closed, and covered with a piece of coarse-meshed cotton or linen saturated in a solution of mercuric bichloride (1 to 5,000). Over this is laid a pad of antiseptic absorbent cotton, and a double-roller flannel bandage is applied over both eyes.

The after-treatment should vary with the temperament and general condition of the patient and the nature of the case. The patient should be kept in bed on an average for three or four days, but may be allowed to sit up in the bed while eating and at other times, in order to avoid inducing fatigue in his back. He should be allowed to rise from bed to answer the calls of nature. Both eyes are to be kept bandaged for a varying period, according to circumstances. The room need not to be darkened. The bandage and dressings are to be removed at the end of forty-eight hours, and sooner if any reason for so doing arises. The edges of the lids are to

be gently cleansed with a warm saturated solution of boric acid, or a warm solution of mercuric bichloride (1 to 5,000), and the lids are then gently opened and the eye is inspected. If the pupil is still contracted, a weak solution of atropia (one grain to the ounce) is instilled for the purpose of preventing as far as possible the formation of posterior synechiæ, which occur in about sixty per cent. of the cases. If there is any mucous secretion, or any swelling of the lids, the cul-de-sac and eyeball must be thoroughly and carefully irrigated with the warm boric acid solution, and an inspection of the whole length of the wound made. If on the contrary there is little or no secretion, and if the lids look well, the eye need not be inspected until the fourth or fifth day, but the dressings should be renewed and the lids cleansed daily. If on the fourth or fifth day the pupil is round and central, the eye is carefully irrigated, and if the wound has closed throughout its entire length, the bandage is discontinued during the day, and at night is replaced, but only on the operated eye. The eye not operated upon is usually left uncovered after the second or third day. Should there be any pain or circumcorneal injection present, a weak solution of atropia should be used several times a day until both these symptoms have subsided. The writer considers it a mistake to give the cataract patient too much liberty, and in this respect Wecker and Panas, in Paris, and some of our own American surgeons have decidedly erred. When patients are sent home on the day of operation, or discharged from treatment in two or three days, any report of the result obtained in such cases is valueless, and detailed statistics are impossible. The court-plaster dressing without a bandage has been tried by the writer and found wanting. It is irritating to the skin of the lids and has been abandoned. The binocular roller bandage should be put on with great care. In warm weather it is better to use a roller bandage of linen or cambric gauze, which is much less heating than flannel.

Complications Occurring in the Course of the Operation.—1. The iris may fall upon the edge of the knife in its passage across the anterior chamber, and may be wounded or excised as the corneal section is completed; the accident may happen to any surgeon, and is much more likely to occur if the patient strains or contracts any of the muscles of the eye or the orbicularis. The rapid passage of the knife across the anterior chamber to its point of exit in the cornea on the opposite side, and the avoidance of any undue pressure on the eyeball by the fixation-forceps, will do much toward preventing the occurrence of this accident. The rapid completion of the corneal section also aids in this endeavor, and is very necessary to the making of a smooth operation. Should the iris be cut or excised in this first step of the operation, an iridectomy must be done at once, and the artificial pupil made clean and smooth. As a matter of fact, this accident rarely happens to the skilled operator.

2. *More or less Extensive Hemorrhage into the Anterior Chamber.*—This may be in great part prevented by avoiding the formation of a conjunctival flap. If the hemorrhage comes from a wounded iris, the latter is to be smoothly excised, and the hemorrhage from the divided vessels must then be controlled, and the blood, as far as possible, removed from the anterior chamber, before the further steps of the operation are completed. The presence of the blood in the anterior chamber interferes with the proper laceration of the capsule and the removal of the lens.

3. Retraction of the iris toward the ciliary processes, or its dilatation and folding away into the upper part of the angle of the anterior chamber. This is not a common accident, but it is an awkward complication of the subsequent healing process. After the lens has been extracted and the anterior chamber thoroughly cleansed, the retracted iris may sometimes be made to assume its normal position by continuous rotary massage of the eyeball, assisted by a drop or two of eserine. It may also be sometimes replaced by very careful and delicate stroking with the end of a hard rubber spatula. If the iris is crowded up into the angle of the anterior chamber, it is better at once to pull it out of the wound and cut it off. In any event the necessity of an iridectomy is an unfortunate complication, for owing to the location of the wound in the cornea, at some distance away from the periphery, it is not possible to make a perfectly smooth coloboma.

4. *Prolapse of the Vitreous.*—This may occur at any step of the operation, and is always a misfortune. In the hands of a careful operator it is usually slight, especially if the speculum has been removed after the opening of the capsule, and it need not interfere with the usual careful manipulations employed in evacuating the lens. Any portion of vitreous that remains in the wound after the lens has been removed must be immediately cut off close to the wound, and great care must then be exercised in any manœuvres undertaken for removing any fragments of cortex from the anterior chamber. In case of prolapse of the vitreous, all irrigation of the anterior chamber must be avoided, as it would certainly increase the loss of vitreous. If the latter is fluid and the prolapse extensive, the lens should be removed at once with the blunt hook or spoon, and the eyelids immediately closed temporarily for a few minutes. The iris should then be replaced, gentle irrigation of the cul-de-sac should be done, eserine instilled, and the eye then closed with the usual antiseptic dressings and bandage.

Complications of the Healing Process.—1. Posterior synechiæ, or adhesions of the posterior surface of the iris to the remains of the anterior capsule of the lens, occurring independently of any actual iritis. These adhesions are very common, being met with in at least sixty per cent. of the cases. They are in many cases filiform or thread-like in character, and rarely obstruct the pupillary area. They are caused by the edges of the lacerated anterior capsule coming in contact with the sphincter margin of the iris, which has already been somewhat bruised by the passage of the lens through the pupil.

2. *Iritis.*—Almost always of the mild, plastic type, occurring but seldom (less than eight per cent. of the cases), and sometimes involving only a segment of the iris. This is best treated by weak solutions of atropia and warm applications.

3. *More or Less Complete Obstruction of the Field of the Pupil by the Opaque or Thickened Capsule of the Lens.*—This is a very common complication of the healing process, not only in the simple extraction, but in all forms of extraction. It almost always requires operative interference of some kind, usually discission, in order to give satisfactory ultimate vision. In the experience of the writer, discission is demanded in at least two-thirds of the cases.

4. *Incarceration of the Iris or Anterior Synechiæ.*—This consists in a more or less marked adhesion of the iris to or in the inner lips of the wound. This condition should be carefully distinguished from actual prolapse of the iris, where the iris either entirely fills the wound or is actually prolapsed outside of it. This complication unfortunately occurs too often after simple extraction, the writer having met with it in fifteen of his first one hundred cases. Since then he has met with it less frequently, and this is probably due to the less peripheric location of the corneal wound in his later operations. These adhesions may sometimes be diminished, or even broken, by using a half-grain solution of eserine several times a day, but the risk of exciting irritation in the iris, and actual inflammation, militates against any prolonged use of the drug. An incarceration of the iris is an unfortunate complication, for it distorts the pupil and may be a source of irritation to the eye; but its danger may be reduced to a minimum by making the entire length of the section in clear cornea.

5. A more or less irregular pupil, usually oval, caused by a puckering of the iris in the upper part of the angle of the anterior chamber, without any actual adhesion or incarceration of the tissue of the iris in the lips of the

wound. There seems to be no certain means of averting this, and it does not appear to exert any unfavorable influence upon the vision.

6. *Secondary Prolapse of the Iris.*—This is almost always of traumatic origin, that is, due to some sudden or unexpected movement or act on the part of the patient, such as lying on the operated eye and thus opening the wound, or displacement or actual removal of the bandage by the patient. It may perhaps be sometimes due to a premature opening and examination of the eye by the surgeon. It is probably safe to say that its prevention depends on careful nursing, and partly also on the location of the corneal section. If the incision is in the limbus, prolapse of the iris would be more likely to occur than if the incision were in clear cornea away from the limbus. The views of the profession have changed in regard to the necessity of cutting off all prolapses of the iris. Formerly all were abscised, but now we reason differently. If the prolapse occur soon after the operation and it cannot be reduced, it should be cut off as neatly as possible, and the edges gently stroked into place in the anterior chamber. If the wound has already partially closed, and the prolapse of the iris is a late occurrence, it is better to leave it undisturbed. Many, if not all of these prolapses, when left to themselves, disappear or cicatrize in a smooth manner, and are not specially apt to give rise to any sympathetic trouble. Great care in operating, and the strict exclusion of all such unsuitable cases as rigidity of the iris, dislocation of the lens, unmanageable patients, will all aid in reducing the cases of secondary prolapse of the iris to a minimum.

7. *Capsulitis*, or inflammation of the capsule of the lens, is a somewhat rare complication. It is almost always of the mildly plastic character, and is usually associated with the mild form of iritis. If it is of the suppurative type, it is almost always, if not invariably, accompanied by a purulent inflammation of the iris and infiltration of the tissue of the cornea in the vicinity of the wound, and is always the result of secondary infection from without, the purulent infiltration beginning in the wound.

8. *Purulent Infiltration of the Lips of the Corneal Wound.*—This cloudiness of the lips of the corneal wound is fortunately a very rare complication, thanks to modern cleanliness and antiseptic precautions. It is always the result of secondary infection from without, and if not attacked at once by energetic measures it may end in total loss of the eye from suppurative panophthalmitis. The writer has met with it but three times in something over one hundred and sixty operations, and in all those cases it was almost immediately checked. Its origin is usually a chronic conjunctivitis or dacryocystitis, and it should be treated energetically by an immediate removal of the bandage and dressings, repeated irrigation of the wound, eyeball, culs-de-sac, and inner surface of the lids with a hot solution of mercuric bichloride (1 to 5,000), and prompt cauterization of the entire length of the wound by the galvano-cautery. The latter may be repeated daily for several days, if necessary, or as long as it seems to influence the course of the suppurative process.

Secondary Operations.—It is often necessary to perform secondary or after-operations in order to improve the vision, after the cataract has been extracted, and these secondary operations may be divided into two classes; viz.:

1. Discission or laceration of the posterior capsule.

2. Excision of a piece of thickened capsule, or of a piece of membranous or pseudo-membranous tissue, composed of the thickened posterior capsule and the products of inflammatory exudation. A subsequent division of the capsule, some weeks after extraction, plays almost as important a part in restoring the ultimate vision as the extraction of the cataract itself. All after-operations should be done with great care and under strict antiseptic precautions, and when so done there is usually but little reaction following them. The gain in visual acuteness following a secondary operation is often very great.

1. Discission or laceration of the posterior capsule is very often, perhaps in the great majority of cases, necessary, and almost never dangerous in the hands of a skilled operator. The best instrument probably for this operation is the slender, sharp, curved knife-needle with cutting edge. This is plunged through the cornea, near the limbus, on either side, wherever it seems most indicated, and the capsule is lacerated by a single vertical or transverse stroke of the blade, or, if necessary, the opening is made crucial. Under cocaine this may be done without the employment of fixation-forceps, and thus all undue pressure on the eyeball is avoided. The difficulty and danger of the operation are of course proportionate to the density and position of the membrane to be divided. When it is possible, the writer prefers to employ the electric light for this purpose, as with this intense illumination the faintest cobweb of a capsule may be seen and readily lacerated. A capsule which has been thickened by the products of inflammation, such as is met with after iritis or iridocyclitis, cannot safely be approached in this way, and for such cases we resort to the more serious operation of excision.

2. Excision of a piece of thickened capsule or pseudo-membrane, which blocks the field of the pupil, and its removal from the interior of the eye. This class of cases should be studied with great care before deciding upon what is to be done. When it has been decided that a piece of the capsule or pseudo-membrane must be removed, an incision should be made in the cornea near the limbus, and over that part of the membrane which it is proposed to remove. This incision may be made with a narrow cataract-knife, or a Beer's knife, or, better still, with a straight lance-knife. If the membrane is very thick, the knife may be plunged through it from the periphery toward the centre, at the same time that the corneal incision is made. Sometimes by this manœuvre the thickened capsule gapes sufficiently to admit of decidedly improved vision without the necessity of removing a piece of it. More often this, however, does not occur, and then the next step is to insert a Tyrrel's hook, catch and draw out a flap of the thickened capsule, and cut it off close to the wound in the cornea. Another way of performing this second step, is to introduce a fine pair of Wecker's knife-scissors through the corneal wound, and then excise and remove a triangular piece of the thickened capsule or membrane. This is decidedly a more difficult and dangerous operation than the simple discission, as it may set up a fresh attack of iritis or iridocyclitis, with subsequent closure of the opening made in the capsule by the knife, or somewhat rapid atrophy of the eyeball.

The manœuvre of opening the capsule with the point of the cataract-knife while making the corneal section is not to be commended. It is the revival of a method practised many years ago by Wenzel and others, the capsule being split horizontally in the upper portion of the pupillary space. It was at that time claimed that it simplified the operation of extraction by lessening the number of instruments required for the operation. It is not an easy manœuvre to perform, and may make an irregular and ragged corneal wound, thus protracting the healing process, and also rendering the wound more liable to secondary infection. If the capsule happened to be thick and tough, the point of the knife might fail to open it sufficiently, and there might be some danger of rupture of the suspensory ligament and partial dislocation of the lens. This manœuvre is very difficult if the pupil is narrow and the anterior chamber shallow, and the iris should almost certainly be wounded.

The difference between primary and ultimate vision is enormous, and the gain in the latter is due to the secondary operation. Moreover, the ultimate vision, after discission, becomes even better as time goes on, and as the cloudiness of the vitreous, following the operation, clears up. Furthermore, it should not be forgotten that many cataractous eyes have a more or less unhealthy fundus. There is more or less disease or degeneration of the

choroid in almost all elderly people, and the more extensive this choroidal degeneration is, the more likely is the retina to be involved in the process. These eyes would, of course, have a diminished visual acuity, entirely distinct from the loss of vision due to the presence of cataract. Hence we should not be surprised at the low degree of visual acuity in many cases after a successful extraction of cataract; and if the vision cannot be improved by careful correction of the existing astigmatism as well as the aphakia, we should look for the cause of the failure in some existing lesion or degeneration in the fundus.

A Comparison of the Advantages and Disadvantages of Simple Extraction of Cataract.—The advantages of simple extraction may be summed up as follows:

1. If successful and without complication, it preserves the natural appearance of the eye—a central, circular, and movable pupil.

2. The acuteness of vision, with the astigmatism carefully corrected, is somewhat greater than after the old operation.

3. Eccentric vision and orientation are decidedly better than by the old operation.

4. Small particles of capsule are much less likely to be incarcerated in the wound, and thus act as foreign bodies and excite irritation.

5. It is a shorter operation in point of time, by reason of the absence of an iridectomy.

6. As there is no iridectomy, there is little or no hemorrhage, and this may be considered a very decided advantage. How often do we see an operation for the extraction of cataract delayed, sometimes for many minutes, by extensive extravasation of blood from the divided blood-vessels of the iris, often filling the anterior chamber and becoming coagulated. Many an operation has been interrupted, and the extraction of the lens postponed to a future day, because the hemorrhage from the iris was so profuse as to render the further steps of the operation well-nigh impossible, until the blood in the anterior chamber had been absorbed. If blood remain in the anterior chamber after the opening of the capsule and the extrusion of the lens, the coloring matter frequently is deposited in the lacerated capsule, and by its dark color interferes considerably with the ultimate vision.

The disadvantages of simple extraction are as follows:

1. The technique of the operation is decidedly more difficult than that of the old operation. The corneal section must be larger, in order that the passage of the lens through it may be facilitated, as the presence of the iris acts as an obstacle to its passage. The section must be performed rapidly, so as to avoid the danger of the iris falling on the knife and being wounded. This rapid passage of the knife across the anterior chamber renders it difficult to make the height of the flap an even curve, particularly when the incision is entirely in clear cornea, as it should be. The cleansing of the pupillary space and the posterior chamber is much more difficult than after the old operation.

2. Posterior synechiæ, secondary prolapse, and incarceration of the iris are more frequently met with than after the old operation. The two latter may be largely avoided by making the corneal section, as before stated, in clear cornea, and not in the limbus, which is too peripheral, and rather favors both prolapse and incarceration of the iris.

3. The operation is not applicable to all cases. This objection, however, may be applied to all operations.

Dysentery in the German Army.—It is said that dysentery is just now very prevalent among the soldiers in Germany. Energetic measures have been ordered for the purpose of circumscribing the epidemic, and the use of unboiled drinking-water has been forbidden in the affected regiments.

SURGERY OF THE LATERAL VENTRICLES OF THE BRAIN.[1]

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After alluding to the fact that puncture of the brain for the relief of hydrocephalus dates back to 1744, in the case of Dean Swift, Dr. Keen pointed out that the former operations were done through the anterior fontanelle, and not by trephining.

In 1881 Wernicke first proposed to trephine and puncture the lateral ventricles. This proposition was enforced by Zenner, of Cincinnati, in 1886.

On November 7, 1888,[2] Dr. Keen read a paper before the College of Physicians of Philadelphia, in which, in ignorance of these earlier propositions, he proposed to trephine, puncture, and drain the lateral ventricles. He was led to this by a case of exploratory trephining for supposed abscess of the temporo-sphenoidal lobe. The post-mortem showed that there was distention of the lateral ventricles in consequence of tubercular meningitis, that the drainage-tube had reached to within a quarter of an inch of the ventricle, and had not produced any inflammation. He pointed out the fact that the brain would bear pressure much less well than the other viscera, and hence the need for early trephining. He then reported the following three cases of his own:

Case I.—A boy, four years of age, was threatened with blindness from acute hydrocephalus. This condition was judged to be due probably to tumor of the cerebellum, though on which side was doubtful. Dr. Strawbridge had examined the eyes, and had found that there were choked discs with retinal hemorrhages and swelling. The swelling of the disc measured 2.30 mm. in each eye, and, in view of the rapidly increasing blindness, Dr. Strawbridge brought the child to Dr. Keen for the performance of an operation. This was done at the Woman's Hospital, Philadelphia, January 11, 1889. A puncture was made at a point one inch and a quarter behind the left meatus, and the same distance above "Reid's base-line." A half-inch button of bone was removed and the brain punctured by a hollow needle (No. 5, French catheter scale), which was inserted in the direction of a point two and a half inches vertically above the opposite meatus. At about an inch and three-quarters the resistance suddenly ceased, and the cerebro-spinal fluid began to escape. Three stout horse-hairs, doubled, were then passed into the ventricle. No phenomena occurred during the operation. The highest temperature that followed the operation was 101.2° F. for a very brief interval, but most of the time it was normal. In two days the swelling of the optic nerves had fallen to 1.57 and 1.63 mm. in the right and left eye respectively, and, by the sixth day, to 1.09 mm. in both eyes. By the seventh day the swelling of the optic nerve had increased, and the drainage was not very free. The tumor was sought for by probing through the drainage opening into the occipital lobe, almost to the occipital bone. No tumor being found by probing, an opening a quarter of an inch in diameter was gouged in the occipital bone below and to the left of the inion. The cerebellum was explored by a probe to the depth of two and a quarter inches in the direction of the left lobe, and again obliquely across into the right lobe, but no tumor was found. This wound healed by first intention without any fever.

On the fourteenth day the horse-hairs were removed, and a small rubber drainage-tube was inserted into the ventricle in order to give freer vent to the fluid. This was attended by no pain or discomfort. By the twenty-eighth day the child had become somewhat restless, and the swelling of the discs, which had fallen to 0.83 mm., had again increased to 1.33 mm. in each eye. Accordingly, the right side of the skull was trephined at the corre-

[1] Résumé of paper read before the Surgical Section of the Tenth International Medical Congress, Berlin, August, 1890.

[2] Medical News, December 1, 1888.

sponding point above and behind the ear, and the occipital lobe was punctured to the tentorium, but no tumor was found. A drainage-tube was then passed into the right ventricle directly, being inserted without prior puncture, by a hollow needle.

On the thirty-second day, by a fountain syringe, the bag of which was raised about six inches above the head, the ventricles were irrigated from side to side with warm boric acid solution, four grains to the ounce. While the connection was being made with the tube, the child was a little restless, but so soon as the warm water began to flow into the brain he became quiet, and said that "it felt good." The fluid escaped from the opposite side slowly. The bag of the syringe was then elevated until the escape became quite free, but never reached a continuous stream. It was estimated that about eight ounces passed into the ventricles, of which about two ounces escaped from the opening on the opposite side, and about six ounces were retained. No phenomena whatever was apparent during the process described, saving the comfort shown by the child.

On the thirty-fourth day the ventricles were again irrigated from side to side with plain boiled water, which gave less relief than the boric acid solution, but produced no ill effects. A few days later the child was evidently not so well, and died on the forty-fifth day, the first drainage-tube having been in place nearly all that period.

At the autopsy the cerebro-spinal fluid was perfectly clear, more so than that which was obtained at the first tapping, which was slightly turbid. The ventricles were greatly distended with fluid. There was found in the left lobe of the cerebellum a sarcoma, which had compressed, as was suspected, the straight sinus and the veins of Galen, and had encroached on the fourth ventricle. The sinuses through which the rubber tubes passed were not surrounded by an inflammatory zone. There was no injury of the opposite wall of the ventricle, and no trace of the punctures made in the cerebrum or cerebellum. The oblique puncture made in the latter had gone through the tumor, which, however, was too soft to be perceived.

Case II.—A boy, aged three and a half years. Hydrocephalus set in four or five months after birth. His mental condition was extremely poor. On March 5, 1889, the left ventricle was tapped in the same manner as in Case I. At a depth of an inch and a quarter the resistance suddenly ceased, and the cerebro-spinal fluid immediately escaped. As in the first case, the fluid was slightly turbid. Drainage by horse-hairs, as formerly, was not very effective. The highest temperature immediately after the operation was 100.2° F., and there was marked increase in the use of the right arm, which had been paretic. The drainage being insufficient, on the fourth day the ventricle on the opposite side was opened, and a small drainage-tube inserted in both ventricles. These were stopped by disinfected plugs of wood, with a V-shaped slot cut in each, so as to allow of the escape of the fluid at about thirty-five drops a minute. As this seemed to be too free, after four and a half hours other disinfected plugs were inserted, with smaller slots. Convulsions set in the next day.

As soon as Dr. Keen reached the patient he found the convulsions constant, so he decided to replace the drained fluid, and having no time for the preparation of an artifical cerebro-spinal fluid, he used plain boiled water. This was siphoned from a height of about eight inches. As soon as the warm solution began to flow into the ventricles the spasms ceased. The flow was then immediately stopped by squeezing the tube, and in a few minutes the convulsions returned. They were immediately arrested again by slight siphonage of warm water. Eight times the convulsions returned, and each time they were arrested by a siphonage of about one-half ounce to one ounce of fluid. Dr. Keen estimated that the amount of fluid injected was nearly a pint. No further spasms occurred, but the child gradually failed, and died in the afternoon. The autopsy showed great hydrocephalic distention, but no injury from the operation.

Case III.—This was a case of tubercular meningitis with unilateral acute internal hydrocephalus of the left ventricle. The foramen of Monro, as the autopsy showed, was closed. This closure was attended by left unilateral distention and produced right hemiplegia. In this respect the case is probably unique. The left ventricle was tapped through the arm-centre. The child was almost *in extremis* when it was done, and died about four hours after the operation. At this operation it was equally easy to determine when the ventricle was reached.

Dr. Keen next referred to the case of von Bergmann, in his "Surgical Treatment of Brain Lesions," as the first case ever operated upon, though not published until after his own paper and a note upon his first case. This case was operated on July 15, 1887, by the anterior route, and proved fatal on the fifth day. He described, next, two cases reported to him by letter, by Mr. Mayo Robson, of Leeds, as follows:

A girl, aged ten, without preceding illness, began to have pain in the left ear, and was feverish, December 19, 1888. In three days a discharge followed, which gradually lessened, but was still present a month later when admitted to the hospital. There had been also rigidity of the neck and twitching of the right angle of the mouth; no vomiting. Slight mental disturbance. On admission, January 19, 1889, temperature 105° F.; pain in left side of head, paresis of right arm and leg, gradually developing into complete hemiplegia and aphasia. Optic discs inflamed. Operation, February 7, 1889. Trephining over the arm-centre. Dura healthy. On exposing the brain it did not pulsate and seemed to be compressed. Exploring-needle passed deeply in various directions, hoping to reach pus, but failing to find any the needle was pushed on into the lateral ventricle and a half ounce of clear fluid drawn off, after which pulsation returned in the brain.

The wound was closed as usual, no drainage being employed. The next day there was slight power in the arm, soon after in the leg, and on the third day she could answer simple questions. Within a month the hemiplegia was gone. Six months later she was perfectly well.

Even a half-ounce of fluid seems to have imperilled life by pressure, and the operation undoubtedly saved her life, a more important and encouraging lesson for the future.

Mr. Robson's second case was one of an infant, who was trephined for quickly increasing hydrocephalus, following treatment of spina bifida by Morton's injection. The skin was trephined an inch in front of the Rolandic fissure, over the second frontal convolution. The dura was opened and an exploring syringe inserted into the ventricle, which was reached an inch from the cerebral surface. By Lister's sinus-forceps a rubber-drain was inserted along the needle as a guide. The drainage was so free that it wet the dressings and ran on the floor, and the patient seemed much relieved. The drainage soon became less free, and on the third day the child died in convulsions. The autopsy showed that the brain had shrunken so much that the end of the tube was lying between the dura and the brain.

Dr. Keen alluded next to the case of Ayers and Hersman, in which, on December 4, 1888, puncture was made over the coronal suture, an inch and a half to the middle line. The operation was repeated on April 28, 1889, by Dr. Hersman. The first operation was followed by the escape of from four to eight ounces of cerebro-spinal fluid and evident improvement. At the second operation no fluid was found in the ventricle, and the child was much improved. The improvement has continued up to May 1890.

Of the 7 cases thus far reported, 2 have recovered and 5 died—a mortality of seventy-one per cent.—which, for a new operation, and for so extremely dangerous a condition, is far from discouraging, especially Mr. Robson's first case.

Dr. Keen then entered into the question of the technique of the operation, and pointed out that it was neither difficult nor dangerous, and that the rules that he had laid down in his former paper[1] had proved to be correct, and that in his judgment the lateral route is the best, except in special instances. From his experience in these three cases, he urges that the puncture be made by a cannula (No. 13, French catheter scale), and that the drainage shall not be done by a tube, but by a sufficient bundle of horse-hairs; and that too much haste shall not be used in draining off the fluid, as such haste may perhaps cost the life of the patient, as in Case II.

Dr. Keen next took up the question of hemorrhage into the ventricles and referred to the following case, reported to him personally by Professor Frederic S. Dennis, of New York. It is the first case in which a clot has ever been removed from the lateral ventricle.

A man, aged thirty-six, was struck on the right side of the head by a falling ladder, but was not rendered unconscious by the blow. An hour after admission into the hospital his left arm became paralyzed, and later, the face and leg also. A diagnosis of cerebral hemorrhage was made, and six hours after the accident he was operated on.

A linear fracture without depression was discovered. Trephining was done over the arm-centre. No epidural and no subdural clot was found, nor was any clot found when the brain tissue was incised. Accordingly, an incision was made directly into the ventricle, and when the retractors were slightly separated a blood-clot about the size of a pullet's egg shot out of the ventricles with force enough to land several feet from the patient's head. Gentle irrigation and drainage, and the ordinary care of the wound. The patient never recovered from the paralysis, became delirious, and died comatose in three days.

The autopsy confirmed the diagnosis, and also that there had been great laceration of the cerebral substance, to which fact death was due. There was no meningitis and no suppuration.

Dr. Keen then narrated four cases of abscess bursting into the lateral ventricle, beginning with the historic case of Detmold, in 1849, and added three other cases by Pancoast, Morehouse, and Morton. All of the cases died, as might be presumed to be the case from so dangerous an accident.

The next series of cases were those due to rupture of the ventricles by compound fracture. Two cases were referred to, one of Massa, the other by Hewitt, in both of which the lateral ventricles were torn primarily, and there was free discharge of cerebro-spinal fluid. Both of these cases recovered.

Of secondary opening of the ventricles he gave seven cases, by Bouchacourt, Berenger, De Carpi, Erichsen, Rodenstein, Cheever, and himself. Strange to say, four of these seven cases recovered.

Five cases of rupture of the lateral ventricles, from simple fracture of the skull, were also referred to; one each related by Thompson, Haywood, Erichsen, and two by Lucas. All of these patients were young children, five years of age and under, and all showing secondary soft swelling under the scalp. The cerebro-spinal fluid was removed either by tapping, or, in one case, by rupture. Of the five cases three recovered. After consideration of the entire subject the following conclusions were reached:

Conclusions.—1. Injuries involving the ventricles, the result of compound fracture or of trephining, and involving great disturbance of the cerebral substance, are not necessarily fatal, for ten of the twenty-six cases here reported have recovered. In these few cases compound fractures and extensive injuries, unless primarily fatal, seem to be less dangerous than rupture of the ventricle from simple fracture. They should be treated antiseptically in precisely the same manner as wounds in other parts of the body, by the establishment of asepsis, drainage, and the usual later treatment. If pus follows, or the cerebro-spinal fluid becomes dammed up, causing symptoms of pressure, incision and free drainage should be resorted to.

2. In cases of simple fracture involving the ventricles experience would seem to indicate that it would be wise not to attempt any operative procedure unless threatening symptoms supervene. If necessary to interfere, I should recommend that the cyst containing cerebro-spinal fluid should be continuously and slowly drained by a small bundle of horse-hairs, rather than by freer evacuation. But, I believe, in the majority of cases constant pressure, and but little active treatment, would meet such symptoms as might arise. Possibly slight pressure would be all the treatment that would be necessary.

3. Abscess of the brain bursting into the lateral ventricle has been thus far uniformly fatal, and demands the promptest treatment possible. The suggestion made for instant bilateral trephining and irrigation of the ventricles can at least do no harm, although the possibility of its doing any good is but slight in so fatal a condition.

4. Hydrocephalus, whether acute or chronic, is usually a fatal disease.

5. Surgical procedures for tapping the ventricles for its relief are easy, and certainly do not *per se* involve great danger.

6. Whether they will cure the disease is as yet not determined. In acute effusions tapping, with or without drainage as may be thought best, will certainly save some lives otherwise doomed to be lost; and in the chronic form, long-continued slow drainage at an early period is at least worthy of a trial, with a reasonable hope of success in a few cases.

7. The methods which I have described for performing the operation, especially by the lateral route, are at least worthy of trial, with a view of determining the value of such surgical procedures.

8. After trephining and tapping of the ventricles, irrigation of the ventricular cavities from side to side is not only possible, but does no harm. In abscesses involving the ventricle, and possibly in other conditions, it may possibly do good. The fluid used for such irrigation should not contain anything which, if retained and absorbed, might do harm. An artificial cerebro-spinal fluid, or a simple boric acid solution, would seem to be the best for such use.

9. Convulsions, due to too rapid withdrawal of the cerebro-spinal fluid, may be checked by re-injection of an artificial cerebro-spinal fluid, or such other innocuous fluid as the circumstances may make available.

10. In either irrigation or injection of the ventricles it is probably desirable that the air should not enter; but such entrance of air does not seem to be productive of mischief.

11. In hemorrhage into the lateral ventricles, at least of a traumatic origin, instant trephining and evacuation of the clot should be done, and in a few cases will probably be followed by a cure, unless the injury of the cerebral tissue is such as to be incompatible with life.

[1] Medical News, December 1, 1888.

Hospital Nurses.—There are many women entering the profession of nursing whose sense of honor is not high, and whose appreciation of the dignity of labor is not great, but who see in nursing either the means of gaining a livelihood, or a way to escape from the rather dull and petty routine of a single girl's life at home. They like the *éclat* of doing a noble work, and the independence which is essential to it, but are unwilling to do more work than they can help to attain their desire. There are, however, other women who, in taking up nursing, often as a means of livelihood, do so with the highest motives, and who, in rendering themselves independent, have at the same time the great pleasure of helping others in their struggle through life. From this class come all our best matrons, sisters, and nurses, and to them is due the high position nursing holds as a profession for women. —*Murray's Magazine.*

SOME CASES OF JOINT TUBERCULOSIS.[1]

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WHILE not intending to present an exhaustive paper upon tuberculosis of the joints, it may be wise to remind you of certain anatomical and pathological data, that I may the better emphasize certain clinical manifestations to which I propose to invite your attention.

The pathology of surgical tuberculosis has been entirely rewritten during the last decade and a half. All joints are subject to a variety of inflammatory disturbances. Few observers, however, are ready to follow Max Shüller, who states, in a very elaborate article in Eulenburg's "Real-Encyclopädie," that most acute and chronic joint inflammations, even though apparently simple in character, are awakened by the introduction of microbes or their ptomaïnes, which have entered the blood from inflamed or suppurating sites in the skin, connective tissues, bones, and mucous membranes of various organs, especially the tonsils, nose, lungs, intestines, and urinary tract.

Tubercular disease of a joint begins either in its synovial lining or in the spongy portion of a bone entering into its formation. The physiological connection between the joint cavities and the lymphatic system is most intimate. The peculiar anatomical construction of spongy bone, which is so very vascular, leads to a slowing of the blood-current, and favors, therefore, the heaping up of infectious matter brought there in the blood.

Pathological studies and experiments have shown that small thrombi form in the spongy bone, or slight hemorrhages occur upon the synovial membrane. Tissue necrosis results, and the foci for inflammatory disturbances are at hand.

The localization of the inflammatory process at a given joint is explained not only by its individual anatomical peculiarities, but also by the active intervention of external excitants, such as traumatism, exposure, and excessive use, which precipitate the disturbance by calling an unusual amount of blood to the parts, occasioning rupture of the vessels and the discharge of blood laden with disease-producing germs.

In themselves contusions, overstrains, and exposure cannot produce tubercular joint inflammation, except there be present at the same time the specific tubercular bacillus. This explains why, after a slight injury, the inflammation assumes a varying type in different cases.

In 206 cases collected by Shüller, 54, or twenty-six per cent., were tubercular in character. Of all the joints the knee was the most frequently involved, the disease being localized here in thirty-five per cent. of the cases. In the hip it occurred in fifteen per cent.; the elbow, twelve per cent.; the ankle, eleven per cent., and in the shoulder least of all, only four per cent.

Tubercular disease begins much more frequently in the bone than in the synovial membrane. There seems to be no single, constant form of pathological change even in these two classes of cases. The synovial membrane, while presenting the appearances which correspond to those of tuberculosis in other parts, exhibits also great variation in detail in different cases.

Ordinarily it is studded with tubercles separated, or in groups of varying size; surrounding them the tissues are in a state of inflammatory disintegration or vascular granulation. The synovial membrane may become so altered that it closely resembles plush studded with flat, pale-gray granulations. In other cases tubercular tumors of the size of a dove's egg may develop. But, however altered, it looses its identity as a synovial membrane and becomes the ensheathing capsule of a cavity containing either a serous fluid or caseous pus.

The tubercles exhibit a tendency, as elsewhere, to caseous degeneration. In the spongy bone the tubercles congregate in the same manner, become caseous, soften the bone structure, occasion its death—when caries is said to exist. These little tubercular pockets in the bone are also lined with a characteristic tubercular membrane.

While we meet with one group of cases where suppuration occurs and cold abscesses are formed, we encounter another which the text-books formerly designated "tumor albus," in which the pathologist simply finds tubercular granulation tissue.

The abscesses have either an articular or peri-articular origin. In the former, rupture of the joint-capsule has occurred, and we have the "Senkungs-abscess" of the Germans. When there is *no* communication with the joint, the suppuration may be due to decomposing blood-clots, glandular degeneration, the existence of phlegmon, or periosteal inflammation, with an attempt on the part of nature to expel the carious fragments of bone.

Allowed to open spontaneously, the discharge continues through fistulæ thus created. If these fistulæ are examined there will be found the characteristic tubercular membrane commonly called a pyogenic membrane.

The progress of joint tuberculosis is usually slow. Exceptionally it may be rapid, as when there is a sudden discharge of cheesy bone foci into the joint, or a rapid cheesy disintegration of the synovial membrane, or where there is sharp septic infection introduced from without through existing fistulæ.

The disease progressing produces local destruction. It attacks the cartilaginous covering of the articular surfaces of the bones, and even the osseous framework of the joints cannot withstand its pernicious invasion. Sooner or later constitutional infection is manifest. The lungs, brain, and other organs exhibit tubercular disease.

Though search has been made in my cases, the microscopic slides have not always, to say the least, exhibited a rich field of bacilli. When present, these are not usually found in the granulations, but in the structures surrounding the cheesy foci and in the fistulæ.

A few words as to the clinical picture joint tuberculosis presents. Having reached the final stage of caseation and suppuration, with abscess formation, the diagnosis is easy, but unfortunately the mischief done has been so extensive that recovery then no longer means restoration of integrity.

For obvious reasons, an early diagnosis is all-important. All acute inflammatory appearances are now absent. The skin is pale, and may present even an ivory whiteness and a dull lustre. Later the color may change to a pale-blue or bluish-red. The temperature is normal, but when caseation occurs it may be somewhat elevated, but never to the degree it is in an acute inflammation.

The outline of the joint is lost as the parts slowly exhibit the presence of a half-œdematous, half-chronic inflammatory infiltration extending even beyond the limits of the joint-capsule, and fluid within the joint-cavity can be recognized. The contour of the joint is further changed by the early wasting of the muscles about the joint. The position of the joint and the limb is altered by the contracture and the rigidity of the muscles. These changes in position, occurring at a very early period, are often the most suggestive manifestations present. Measurement of the joint, while indicating the change in shape, does not furnish any help in reaching a diagnosis.

Palpation may disclose changes in the capsule and the peri-articular structures. Fluctuation can be discovered in the position which will render the fluid most prominent, yet over-distention of the capsule is undesirable. It is more apparent rather where the fluid is liquid than where it is abundant.

If the pus be thick, or clotted blood be present, its recognition is difficult. To discriminate between elasticity and fluctuation when there is but little fluid, and where the synovial membrane is swollen and much granulation tissue is present, requires no little dexterity.

The functional activity of the joint is greatly impaired. The early disturbance of function with moderate objective

[1] Read at the meeting of the Central New York Medical Association, held at Rochester, N. Y., June 10, 1890.

changes in a joint is very suggestive of tubercular inflammation. The weakness of the muscles is accompanied by marked diminution in their electrical reaction.

The degree of pain experienced varies. It is most marked in the early period when the disease is of bone origin. It is usually present after use or palpation.

The obstinacy of a slowly developing joint inflammation, the persistence of hydrops, refusing to yield under intelligent treatment, is suspicious of tuberculosis.

Sooner or later the tubercles undergo caseation, and suppuration occurs. Seen at this time, when abscesses have burst or have been opened, it becomes necessary to determine whether the pus is of articular or peri-articular origin. The condition of the joint, the localization of the swelling, the presence of pain or crepitation on motion, the mobility of the joint, must be studied, and search for the other usual signs of suppuration be made.

A probe carried into the fistulæ may furnish useful information. The character of the pus is to be noted. If mucilaginous, it is probably mixed with synovia; although if the synovial membrane be converted into a granulating surface this peculiarity will be absent. Coming from a bone cavity, pus may contain fine, sandy, bone particles. Pressure upon the joint-capsule may force pus out, if it be contained within the articular cavity.

Joint disintegration now follows. Destruction of the ligaments, cartilages, and bone occurs, and luxation of the joint is very easily produced.

At a very early period there is loss of appetite, disturbance of nutrition, pallor, restless sleep. With cheesy degeneration an evening rise of temperature appears. Still later, there is a characteristic hectic, with profuse night-sweats and perhaps albuminuria. While it is wise at all periods of a tubercular joint disease to examine the patient carefully for any signs of organic tuberculosis, it is particularly at this late stage that such evidence is furnished.

Permit me now to refer to a few cases.

CASE I. *Tubercular Inflammation of the Hip-joint, with Apparent Recovery, followed Fourteen Months Later by a Fatal Tubercular Meningitis.*—This patient was under the care of Dr. F. W. Sears, of Syracuse, whose notes I am permitted to use.

F. H——, aged nineteen months. Father sixty years of age, mother twenty eight. When the child was eight months of age the family moved to Syracuse. At once the child, previously healthy, began to fail. When sixteen months of age sustained a fall. One month later manifested the usual symptoms of hip-joint disease, the joint being exquisitely sensitive, the muscles about it extremely rigid. Tilting of the pelvis, as the knee is brought to the table, while the child lies in the recumbent posture, and characteristic position of the limb. Extension was applied and the child kept on its back. Immediate relief came. In one month the signs of joint inflammation had disappeared. The extension was continued but nine weeks, as the parents objected to its further use. There never was any recurrence of joint symptoms. Fourteen months later the doctor was again called to the child. He had been ailing for a few weeks. There was now prostration, a dull, listless expression, pain in the head, and moderate rise of temperature; mucous and crepitant râles over a large area of both lungs. The child had spells of twitching and staring. Several days later drooping of the left upper lid, and paralysis of the left arm and leg appeared. The condition grew steadily worse, and the child died after lying in a semicomatose condition for two days. No autopsy was allowed, but the death very evidently was from tubercular meningitis.

It is not unusual for joint tuberculosis to reach a state of quiescence. In fact, it is quite the rule for it to exhibit treachery; for the symptoms to disappear and the patient to be considered cured, only to meet with disappointment as time brings recurrence. But the continued absence of the joint symptoms, to be followed by an outbreak of meningitis is, I believe, extremely rare.

CASE II. *Caries of the Wrist, followed by Pulmonary Tuberculosis; Death.*—March 18, 1888, I was requested by Dr. D. H. Murray, of Syracuse, to see J. N——, aged sixty-five, who was dying of pulmonary tuberculosis. A brother and sister had died of consumption, as had also one of his own sons. Five years before he was seized with pain in his right middle-finger, which recurred at intervals for a year, when it extended to the wrist. Medical treatment failed to relieve him. Eighteen months later the wrist began to swell and the pain increased in severity, extending now to his elbow. The muscles of the forearm wasted and lost their tone, fluctuation appeared at the wrist-joint, while the elbow became partially anchylosed. The forearm was fixed in the pronated position. At the time that these changes in the wrist reached their height, he developed a cough. He lost greatly in weight and had an evening rise of temperature, and night-sweats.

On December 23, 1887, he sustained a fracture of the humerus. Union was established in seven weeks. But from this time on the patient steadily grew worse. When seen by me, pulmonary tuberculosis existed in both lungs, though more advanced in the right. The right wrist was one inch larger in circumference than its fellow; there was fluctuation in the wrist; preternatural mobility of the lower end of the ulna, indicating destruction of the articular ligaments, and marked grating as the bones of the forearm were rubbed against the carpus. The forearm measured, just above the wrist, $4\frac{3}{4}$ inches; below the elbow, $5\frac{3}{4}$; above the elbow the arm had a circumference of $5\frac{1}{4}$ inches. Each of these measurements was one inch less than that of the left arm and forearm at a corresponding point. The patient was bed-ridden, had scarcely strength to raise himself. He expectorated very profusely a foul-smelling, greenish-yellow sputum, which microscopically presented large numbers of bacilli. He grew steadily weaker and died three weeks later. The wrist was opened post mortem, and found to contain cheesy pus. The bones were carious, the ulna particularly so. Dr. F. W. Sears prepared and examined the pus. Bacilli were found. The slides were exhibited at a meeting of the Onondaga County Medical Society. Here we have another instance of the possibility of organic infection without extensive local destruction. Pulmonary infection evidently began with caseation of the tubercles in the wrist. Early resection would probably have averted the pulmonary disease.

CASE III. *Tubercular Synovitis of the Hip-joint; Apparent Recovery; Recurrence after Traumatism; Bone Invasion accompanied by Pulmonary Disease; Resection of Hip-joint.*—P. L——, when first seen, April 24, 1886, in consultation with Dr. Maas, was twelve years of age. The maternal grandmother died of tuberculosis. His mother is pale, thin, and ailing constantly. One brother had hydrocephalus; another since has had chronic meningitis. He had been kicked in the hip during a scuffle, and five weeks later exhibited signs of hip-joint effusion. Under extension by pulley and weight at night, the auto-extension, during the day, and by adding a heavy sole to the shoe worn on the sound limb, he seemed to make a satisfactory recovery. At any rate he remained quite well for nearly a year.

On June 27, 1887, I was again called to see him, by the attending physician. The symptoms had returned with increased violence. The pain in the hip, especially at night, was intense. Extension no longer relieved him. The glands of the groin were enlarged. The trochanter major was very prominent and seemed increased in size. There was hectic fever, night-sweats, and great emaciation. The lungs were dull at both apices; in the infra-scapular region of the left side was an area, the size of a child's fist, which was flat. At these points the breathing was cog-wheeled and exaggerated. At the left apex there were crepitant râles; at the right, additionally, subcrepitant, and also sonorous and sibilant. At the base there was bronchial breathing and an increased number of râles.

Resection of the hip-joint was performed. Upon opening the joint a large quantity of curdled pus was discharged. The head and neck of the femur were removed with chain-saw. The synovial membrane, covered with rich fungous granulations, was cut away. The acetabulum presented a carious site at its centre. This was scraped with Volkmann's spoon. The cavity was thoroughly irrigated with sublimate solution 1 to 2,000, packed with iodoform gauze, antiseptically dressed, the boy put to bed, and extension applied.

Slight febrile reaction occurred. Five days after operation he had on three occasions slight pulmonary hemorrhage. There was no other untoward symptom. The wound healed kindly. The general condition improved under hypophosphites and cod-liver oil. Extension was continued eight weeks. The lungs cleared up. Dr. H. L. Elsner, of Syracuse, who assisted me at the operation and who examined the boy's lungs then, finding the condition as above stated, re-examined him with me September 12, 1837, twelve weeks later, when neither of us were able to detect the existence of any pulmonary disease. The pus and portions removed were examined for bacilli, but none were found.

I present to you four plates which exhibit admirably the condition found. They exhibit the synovial membrane with its rich granulations. The fine miliary granulations could not be here portrayed, but were readily demonstrated as the membrane tacked upon a black background, as suggested by Volkmann.

At the site of attachment of the ligamentum teres destructive ostitis is seen to have occurred. The cartilage of incrustation, raised at its circumference from the bone, and changed in color from contact with the joint contents, is shown. The transverse section represents accurately the depth of bone invasion.

Despite the fact that the boy, contrary to all advice, began to work in a cigar factory after his recovery, and continued steadily in employ there until the present spring, he has never manifested any further pulmonary tuberculosis. He has been able to get about easily with the aid of a crutch; has had good motion of the hip. During February of the present year, however, the wound reopened. Slight febrile disturbance appeared, and he was admitted to St. Joseph's Hospital, in Syracuse, March 15, 1890.

I found a sinus leading down to the upper end of the femur. Five inches below it there was an abscess. Under ether I opened up the fistulous tract freely; scraped away its tubercular lining; curetted the bone, removing some carious particles; made a counter-opening into the abscess cavity and gave vent to some cheesy pus. Here also the characteristic membrane was found and removed with the spoon. The whole was irrigated with 1 to 5,000 corrosive sublimate solution and a drainage-tube placed. In six days this was removed. Gelatine bougies containing five grains of iodoform were used every alternate day, preceded by irrigation. In this manner recovery took place; the patient being discharged from the hospital May 16, 1890.

This case illustrates nicely the course of tubercular joint inflammation beginning as a synovitis. It emphasizes the danger of recurrence after apparent cure, and the extension of the disease, then, to the firmer structures of the joint. The relation of pulmonary tuberculosis to that of the joint is clearly shown by its disappearance after relief of the surgical affection. Operative interference in these cases is not only justifiable, but positively indicated.

While, as Eulenburg says, joint resection is by no means to be regarded as a panacea, there is no doubt that the prognosis is much better than is generally believed. In 1880, König, in a paper read before the German Surgical Congress, stated that with each successive year after resection the death-rate from tuberculosis progressively increases. Schmid-Monnard contributes some interesting statistics to the *Centralblatt für Chirurgie*, December 28, 1889, in which it is shown that where death follows from tubercular disease, in sixty-four per cent. of the cases this occurs during the first year, and that from this time on the outlook becomes more favorable. Where at the end of two and a quarter years after operation there was no reappearance of tuberculosis, local or general, the death-rate was reduced to four per cent. Therefore it can be given out as a rule, that patients reaching the period of two and a quarter to two and a half years, *post operationem*, without tubercular manifestations, may be considered permanently cured.

CASE IV. *Tubercular Ostitis of the Hip, with Perforation of the Joint-capsule; Cold Abscess; Fistula; Resection.*—H. H——, aged five years and six months. Admitted to St. Joseph's Hospital, Syracuse, March 19, 1889. His father is of consumptive family. Two years previous had pain in left knee, cried out in his sleep, limped on awakening in the morning. Hip-joint disease was diagnosticated. Buck's extension applied, and continued for a few weeks. But the boy's general health failed so rapidly that Sayre's splint was applied, that he might be out of doors, and was worn until August 18, 1888. No improvement occurring, extension was reapplied. Soon after, a cold abscess was discovered on the inner side of the thigh, which was allowed to open spontaneously. One month prior to admission into the hospital he had pharyngeal diphtheria. When admitted, he was in a wretchedly exhausted condition, both from the long-continued suppuration and his recent illness. There was a sinus on the inner side of the thigh at the upper third, a cold abscess on the outer side, and the signs of hip-joint disease in the third stage. March 25, 1889, I resected the hip. In the joint cavity there was cheesy pus. The head of the femur had so completely melted away under the destructive ostitis that a mere knob remained at the end of the neck. The plates which I present to you will convey some idea of the condition found. Hemorrhage slight.

The acetabulum was also carious, so that it was necessary to remove a portion of its entire thickness. The shaft of the femur was freed of its marrow with a Volkmann's spoon. The abscess on the outer aspect of the thigh was opened, vent given to the cheesy pus it contained, and the tubercular membrane lining it removed by curetting. The sinus on the inner side was treated in the same way. Powdered iodoform dusted into the different cavities. Each packed with iodoform gauze. Extension with light weight applied. For the first three days the little fellow was more dead than alive. He was so very weak that he could hardly be fed. Under careful stimulation and tonics his strength gradually came up. There was little febrile disturbance. The wound did well, but had not entirely healed when his parents insisted upon removing him to his home, June 4, 1889, ten weeks after operation. I did not see him again until June 4, 1890, just one year after leaving the hospital, when I induced a friend of the family to bring him to my office for examination. I found him in excellent general health; he gets around in a very lively way with the aid of his crutch, playing out of doors constantly; his color is good, and he has no cough. The limb is shortened 2½ inches; has a tendency to rotate inward, which he readily overcomes. The thigh measures 8¾ inches in circumference, as against 10¼ of the left, and the calf of the right leg is 1 inch less than its fellow. The pelvis is tilted downward on the right side. The wound was still unhealed; for out of it projected a piece of necrosed bone which had presented at this site for several months. I had no difficulty in turning the sequestrum out of its bed without the aid even of an instrument. I present the specimen to you. The granulations attached to the bone have been searched for tubercular bacilli, but none have been discovered.

The recovery of this boy, when at the time of operation his condition was as unpromising as it could well be—the physicians assisting being indeed fearful that he might not live through the operation—encourages us in the belief that even desperate cases are not beyond surgical

aid. Yet the history of this case also clearly shows the necessity of early operative interference, especially where the disease is primarily of bone origin.

CASE V. *Tuberculosis of the Shoulder-joint, of Bone Origin; Cold Abscess; Operation; Recovery.*—G. H——, aged three and one-half years when seen by me, December 1, 1884. Both parents well. Father's mother died of consumption; mother's father died of chronic diarrhœa; one cousin of the mother died of consumption; a cousin of the little patient has Pott's disease of the spine.

Without apparent cause, persistent pain appeared in the left shoulder. Some months later the joint became swollen, and movement of the arm was restricted upward and backward. At the first visit the circumference of the joint perpendicularly around the axilla was one inch greater than its fellow. Inunction with iodide of ammonium ointment was prescribed, and as there was some wasting of the deltoid and other muscles, the faradic current was applied. This was continued without benefit for three months.

March 13, 1885, first indication of abscess, which I opened April 11, 1885. Pus was yellow and creamy at the time of incision, but changed in the course of two months, becoming thin and watery. The remaining fistula failed to close until August 1, 1885, and then only after the tubercular membrane lining it had been removed with Volkmann's spoon, and the cavity treated persistently with iodoform.

Even then it did not remain healed, but soon reopened; the pain and restricted motion continued; the probe led to carious bone. January 9, 1886, I cut down upon the humerus, the incision extending from the anatomical to below the surgical neck. I found extensive caries, which was thoroughly removed with the spoon. Resection, of course, was not thought of, as it would necessarily interfere with the growth of the arm. It was found, however, when all diseased cartilaginous and osseous structures had been removed, that an opening through the entire thickness of the bone had been made, large enough to permit the passage of my index-finger.

Iodoform dressing followed. Repair was slow. A fistulous tract remained until August, 1886, which finally healed with the use of the iodoform gelatine bougies. The girl made an excellent recovery and has continued uninterruptedly in the enjoyment of health. She is now nine years of age.

Examination of the arm and shoulder, June 5, 1890, resulted as follows: Left scapula somewhat depressed. Supra- and infra-spinatus muscles slightly atrophied; head of the humerus thickened, especially on its anterior aspect. Circumference of the left arm, at highest point possible, 6⅝ inches; right, at a corresponding point, 7⅝ inches. Length of the left arm from acromial extremity of clavicle to outer condyle, 7, to inner, 7½; of the right, 8½ to 9 inches to corresponding points. There is therefore shortening of 1½ inch of the humerus. The girl can raise the hand to her head, can carry it to the small of her back, and with elbow against the chest touch the opposite shoulder. Evidently, therefore, she has a serviceable arm. The case, however, shows that even conservative operative measures in the neighborhood of epiphyseal cartilage does affect the growth of long bones in a very decided manner.

These cases, selected from those coming under my observation, present many of the salient points we encounter in the study of joint tuberculosis.

But one thought more, and then I have finished. While I have seen primary pulmonary and meningeal tuberculosis awaken various forms of secondary tubercular disease, it has but once occurred in my practice that tuberculosis of the joints has appeared as the secondary affection. I believe that this must be rare. And yet, with the intimate relations existing between the vascular and lymphatic systems and the articulations, this fact cannot but be striking.

The necessity of the early recognition of joint tuberculosis is now universally conceded, and the importance of early operative treatment fully appreciated.

Clinical Department.

TETANUS AND RABIES.

BY STEWART PATON, M.D.,

NEW YORK.

THE clinical reports of cases of tetanus and rabies so often emphasize the similarity of the symptoms of these two maladies that the actual differences of even typical cases are frequently forgotten. Owing to the rarity in man of genuine rabies the opportunities are few for comparing the development and progress of these diseases. This has been considered sufficient excuse for publishing in brief the notes on a case of traumatic tetanus and one of rabies which recently came under observation.

The Case of Tetanus.—Thomas W——, aged sixteen, a laborer, gave the following history: On March 9th received a slight scalp wound from a falling wrench. He was unconscious for about five minutes, but after a short rest he was able to continue his work. The wound was washed and dressed at home. The day following the patient was in his ordinary health and experienced no trouble from the wound. On March 26th he began to have pains in his teeth and all along his spinal column. There were marked spasms of the spinal muscles, with considerable opisthotonos, on March 27th, the eighteenth day after the receipt of injury. On April 1st he applied for admission to the hospital. His physical condition on admission was the following: He was emaciated, anæmic, muscular development poor. Slight trismus, no affection of muscles of deglutition or of respiration. Lungs normal; heart strong, rapid; loud systolic murmur at apex; other viscera apparently normal. There were marked tonic spasms with paroxysmal exacerbations of the abdominal and spinal muscles. These were exaggerated by any form of peripheral irritation, and were accompanied with great pain. The muscles of the arms and legs were only slightly affected. The mind was perfectly clear, and the patient seemed to appreciate his condition. He was immediately put to bed, and all exciting causes, such as loud noises, bright lights, and draughts of air were, as far as possible, removed. The course of the disease was subacute. The temperature curve was irregular, ranging between 102° to 106° F. The therapeutics of the cases were interesting. Urethane in doses of gr. lx. made the patient drowsy, and the first twelve hours lessened the severity of the spasms. The combination of bromide of potash and chloral, even after the addition of active cardiac stimulants, depressed the heart's action to such an extent that its administration had to be suspended. Physostigma was then tried. Squibb's extract was given hypodermically, gr. ¼ every two hours, while at the same time cardiac stimulants were exhibited. The physostigma modified the spasms, but the pulse became rapid and feeble, and the sphygmograph showed an increase of arterial tension. The pupils were slightly contracted. When even the heart became so weak that it was thought necessary to suspend the administration of physostigma, the spasms seemed constantly increasing in force and frequency.

The patient died on the eighth day after admission to the hospital. Even when the trismus and opisthotonos were most marked the patient's mind remained perfectly clear, and at no time was he maniacal.

The Case of Rabies.—Edmund C——, aged thirty, a laborer, and a native of Canada. On May 11th he was bitten on the left wrist by a small terrier. The dog was killed out of pure revenge, but not before it had bitten several dogs, which subsequently developed rabies. The wound was a slight one and healed rapidly. The patient was not of a neurotic temperament and he never thought of the possibility of hydrophobia developing. On the evening of June 5th a sharp, needle-like pain developed in the cicatrix, and radiated up the arm as far as the

shoulder. On the evening of July 6th the patient experienced considerable difficulty in swallowing. Both these symptoms continuing on the 7th, the patient consulted a physician, who advised him to come to New York for treatment. About 1 A.M. on July 9th, the patient, accompanied by his physician, walked into the reception-office of the hospital, and was immediately sent to one of the wards. The patient was a very muscular man of about medium height. His skin was covered with a cold, clammy sweat. Both eyes were suffused, and there was slight internal strabismus and protrusion of the eyes, which had developed about twelve hours prior to his admission to the hospital. The speech and respiration were both jerky, but as yet the mental faculties were unaffected, so the patient was able to answer the questions that were asked him. Salivation was marked, and the patient was continually hawking up and spitting in all directions a viscid saliva. There was no facial paralysis or trismus, but every attempt at swallowing was accompanied by such marked spasms of the muscles of deglutition that the patient became frantically delirious in his attempt to quench his excessive thirst. A glass containing water given to the patient would be resolutely carried to his lips, but as soon as a little of the fluid entered his mouth it was forcibly ejected and the rest spilt. At first there was no aversion at the sight of fluids, but later this was a marked symptom.

The muscular spasms, tonic in character, were accompanied by a terrible feeling of oppression and fear of impending death. The heart was rapid, feeble, and somewhat irregular both in form and rhythm. The pulse was high tension. Temperature 102° F. The patient was immediately put to bed and all forms of peripheral irritation were as far as possible removed. Urethane in doses of gr. lx. had no effect on the spasms, and the same was true of bromide of potash and chloral. Physostigma hypodermically slightly modified the intensity of the spasms, but depressed the heart to such an extent that its administration had to be suspended. The hypodermic use of Magendie, ℥ xx. at a time, was also ineffectual, and finally, as the patient became maniacal it was necessary to administer chloroform. There was no trismus or opisthotonos. The muscles involved were those of the pharynx, thorax, and the diaphragm; the involvement of the latter apparently accounting for the very acute epigastric pain, which was paroxysmal in character and synchronous with the spasms of the other muscles. For one hour before death the patient was in a condition of collapse, and gave evidence of the profound exhaustion of the nerve-centres. The surface was cold, and there was marked muscular relaxation. The radial pulse was imperceptible, and the heart was beating so rapidly and feebly that its impulses could not be counted. Death occurred fifteen hours after the patient was admitted to the hospital, and on the fourth day after the development of the first symptom. Fifteen minutes after death the rectal temperature was 107.2° F. The autopsy revealed practically nothing abnormal except a few small hemorrhagic foci in the floor of the fourth ventricle.

The typical character of both cases, and the absence of any aberrant feature which might throw doubt upon their genuineness added considerably to their interest. The trismus, opisthotonos, and almost complete absence of delirium, were the salient features in the case of tetanus; while the marked salivation, embarrassed respiration, difficulty in deglutition, unaccompanied by trismus, and the maniacal delirium, were eminently diagnostic in the case of rabies.

Although medication did not materially affect the course of either malady, the partial control of the spasms through the agency of urethane and physostigmine no doubt alleviated the patient's suffering in the case of tetanus, and certainly demonstrated that the treatment of tetanus by drugs after the development of the initial symptoms is not as hopeless as is the treatment of rabies.

BELLEVUE HOSPITAL.

A CASE OF SPLENIC DISEASE.

BY A. S. ASHTON, M.D.,

PIQUA, O.

I DESIRE to give a brief account of a peculiar and (to me) interesting case that occurred recently in my practice.

In the latter part of June, a little girl, five years of age, under high febrile action and some irritation of the bowels, had an attack of convulsions. This attack soon passed off, no other paroxysm following it.

Convalescence seemed perfect, saving a jaundiced condition of the skin.

Three weeks thereafter, an eruption, similar to that in measles, yet wanting the other symptoms of the latter disease, appeared over the whole body. This continued only a few days, and was of so mild a character as not to interfere materially with her childish sports; the skin, however, retaining a slight icteroid hue.

August 15th.—Again visited the little patient, who had a slight febrile action following a chill that seemed to call for little medication.

August 16th, A.M.—Condition about the same.

At 9 P.M., of the same day, she awoke from a two-hours' sleep with increased temperature and restlessness that continued throughout the whole night.

August 17th, A.M.—The patient was suffering from distressing pains over the whole body, and stiffness of the joints. To so great a degree was the soreness, that it was well-nigh impossible for her to move the limbs on the left side.

At this visit the temperature was 104⅘ F., pulse 140; pyrexia continued throughout the night.

August 18th, A.M.—Crisis occurred, with profuse perspiration and a subsidence of all the acute symptoms. For ten hours thereafter the little patient rested quite comfortably; complaining chiefly of pain in the bowels.

About noon a dark, congested spot, three by three inches, was noticed above the wing of the left ilium, overlying the spleen. For several hours the spot was not observed to increase any, but during that night it spread rapidly.

August 19th, 9 A.M.—The discloration extended anteroposteriorly, from the median line of the rectus muscle to the vertebral column, and from the junction of the middle and upper third of the thigh to a line corresponding to the lower border of the fifth rib. There was also a number of small, livid spots on the lower extremities. There were none on the right side until just before death, when a purple spot or stain appeared over the right ilium, three by four inches in extent. Respiration now became hurried, pulse very frequent and feeble, extremities cold, extreme thirst and jactitation followed, by death, which occurred at 2 P.M. Throughout the whole sickness—it is worthy of note—there seemed to be no impairment of the intellectual faculties.

Autopsy, twenty-four hours after death: Rigor mortis well marked. The area of discoloration had not increased, but the color, which before death was a dark plum or purple, had faded to a bright red. The adipose tissue underlying the dark patches was infiltrated, presenting the appearance of complete stasis of blood in the cellular tissue. The spleen was soft and completely disorganized, and enlarged to twice its usual size. All the other organs in the abdominal cavity were normal. This is the clinical history of the case. If I have been too minute in the details, it is only that all errors in judgment may be avoided.

If any brother practitioner has met with a similar case, I request him to state the diagnosis and treatment of the same, and lastly, which is no less singular, what was the mode of death in this apparently anomalous attack?

A Good Liniment for Burns, according to the *Union Médicale*, is composed as follows: Salol, 1.0; Ol. olivæ Aq. calcis, āā 70.0.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, September 20, 1890.

BETTER TRAINING—BETTER SURGEONS.

MR. TAIT, of Birmingham, is both an active surgeon and an active controversialist. One rarely takes up any of the leading English medical journals without finding evidence of some little dispute which he happens to have on hand. He manifests a broad catholicity of disposition in his strictures, for he not only attacks his own countrymen, but is engagingly lavish in his criticisms of dead and alive Americans, Germans, and Frenchmen.

The latest and not the least trenchant display of his fault-finding faculties is made in his "Address on Surgery," delivered at the recent meeting of the British Medical Association.

His first frank confession is to the following effect: That we have made mistakes, that we have had to confess that our favorite theories and some of our best established practices in one generation have become the flogging-posts of the next, is but to confess that we are human. Nothing is human if it can have no progress, and progress is impossible in all human affairs without error. But with all our shortcomings there is none unwise enough to avoid the counsel and help we can give him when the inevitable hour of trouble comes for his turn. The scoffer may be what he likes when he is well, but when the abscess pains or the tumor threatens, his tastes speedily become monastic. Humanity has, on the whole, a complete confidence in us, not that we are perfect, but as far as we are so approached we honestly do the best we can.

He thinks that we practise a mere handicraft, but the philosopher who asserts that liberal education will spoil the future craftsman is a mere bookworm, without a true knowledge of human powers. Now a surgical craftsman must be a trained gentleman, accustomed by a classical education to use his native tongue with ease and fluency and without confusion. He must have the fundamental principles of reasoning and of business habits instilled into him by such mathematical training as will be involved in his being able to pass some one of the ordinary examinations now insisted upon by all the licensing bodies. If he can spare the time and money to become a graduate in arts, so much the better.

Tait says, with much show of reason, that our successors ought to be spared that senseless grind at useless details of anatomy with which our own young memories were burdened—details which one can remember only by a demoralizing system of catch-words—details which the student prepares himself to forget the moment the necessity of examinations is over.

Still more strenuously does he insist that our student be altogether relieved from that senseless system of biological training which has set in as a fashion at Cambridge, at Oxford, and at Edinburgh. How angry such students must feel when they come to deal with human patients and human disease, that all these nonsensical details are of no use to them—not even for the purpose of general training—when they find, in truth, that the time occupied in mastering such subjects has been absolutely thrown away.

We, too, are of the opinion that medical students ought to stick to medicine. There is surely enough of it to give them occupation for a few years.

Tait reminds us that in the old days it was charged against the corporations that they turned out a large number of ill-educated empirical practitioners who knew nothing but their patients. Now the tendency is to turn out a still larger number, a very much larger number of scientific young tyros who know neither patients nor their diseases till they have gone through a second pupilage extending for years after they have left their university. This second pupilage lies in the rough school of experience, and in its second training they will be found deliberately and at once to throw overboard at least two-thirds of what they have learned in the first. The young student should be put at the earliest possible time in contact with his material. Tait votes cordially with those who demand the restoration of the apprenticeship system in such fashion as modern requirements indicate. It is of course no longer to be a seven years' slavery in mixing pills and spreading plasters, for the modern manufacturing chemist does all that for us now; but it should be a period of at least two years spent in learning how to deal with patients, how to divine their peculiarities, and in learning how to avoid making an ass of himself in the sick room, as the modern, newly fledged, qualified assistant is certain to do for the first few years of his second pupilage, in spite of his biological lore.

The road to success in the practice of our art lies not only in knowing how to deal with disease, but how to deal with men and women while they suffer from it. Our biological practitioners have no experience of either of these lines of research, and they therefore fail miserably.

He says a pleasant little thing in favor of medical bodies, when he asserts that they are deaf to our appeals, because their rulers no more understand the requirements of the general practitioner than they understand the Confucian system of philosophy.

He maintains that a training in practical mechanics is far more necessary for a man who has to operate upon his fellow-human beings than is a training in anatomy.

As a matter of fact, at present in medical education the cart is being uniformly put before the horse. Impressions in youth are far better and more lastingly conveyed by the eye than by any other sense. Words referring to clinical systems and to physical diagnosis, which are now a mere shibboleth to the student, would, under better arrangement, possess a living interest; for what is used merely as dead rote for the purpose of passing examinations would

survive for his lifetime as the guiding principles of his practice.

The revolution wrought in surgery by the introduction of anæsthesia is eloquently set forth. Tait speaks of the vulgar theatrical display that was formerly (?) made of operations. He aptly remarks that it often makes him sad to hear of the anxiety professed by many of his profession to "see" some great surgeon perform some big operation —an operation which they themselves would never entertain a wish to undertake. Such performances ought to take place only in the utmost privacy and be witnessed only by such as can really be benefited by observing them, that is, men who wish to engage in operating practice and are likely to have fields in which to fulfil their wishes.

He is quite severe on theories. Surgical theories never lead to anything. Not even the great antiseptic theory has led to any tangible result beyond what every housewife knew before its day, namely, that dead, moist, organic matter will decompose if some agent or other gets to it. We know now the exact nature of this agent, but this is a new fact, not a new theory. The theorists forget that living tissue will not decompose under the access of the same influences—influences, indeed, which surround us at every moment of life, and pass by harmlessly. Now the theorists take a lingering farewell of their lost darling by saying, "Well, at any rate, it taught us cleanliness." As a matter of fact, the very reverse of this is true, for it was the arguments of those who opposed the antiseptic theory which demonstrated the successful cleanliness. The last phase of this discussion is the antiseptic accoucheur, who pleasingly fancies that both his theory and his practice are new, whereas in matter of fact Semelweiss literally died for them nearly thirty years ago. Semelweiss had no theory, he simply stated the fact that puerperal women in Vienna were poisoned by dirt. "Wash your hands," he cried, "and the women will not die," and his colleagues ruined him for his frankness. But he persuaded the world he was right. Simpson took up the fight with his accustomed vigor, and carried it through, and now, forsooth, we hear of the antiseptic theory as applied to midwifery as a new thing.

What is wanted for the improvement of our surgical results is not any more theories, but better work and better systems of working, preceded by better systems of training. We forget that an art like surgery cannot be acquired by passing examinations.

Tait also has his little fling at general practice. No sooner is a new drug placed on the market than everybody rushes to try it. At first all is well, and "rubbishin" is good for everything. Then come a few isolated hints about the "toxic effects of 'rubbishin,'" and finally "rubbishin" gets dropped altogether, and we hear no more about it. It is positively awful to think of what some of these new drugs—say chloral, for instance—may have done before they got settled. For the mischief that is done in this way the public is largely to blame, if indeed it is not wholly to blame; they like the idea of a new discovery, especially the upper classes, and Tait is told by men practising near the dwellings of the princes of the land, and at fashionable watering-places, that the great burden of their lives is to keep up with the new drugs and the new dodges. He distrusts men who are always going in for new drugs. In surgical results there is too much of the same thing. Take the case of Dieffenbach's operation for squint, a most useful proceeding judiciously applied over a limited area. But he remembers the time when every urchin with a squint was collared in the street and walked into the operating-room to have one rectus divided in order that its opponent should have full power to swivel the eye out in the opposite direction. Everybody was "doing squints."

Removal of the appendages has been similarly overdone; but Tait energetically disclaims all responsibility for this visitation.

His final admonition is as follows:

"If you want a thing done well you must either do it yourself or trust it to a very small number of workers. I do not think it would be too much to ask our Association to place every new drug and every proposal for a new surgical proceeding under the observation of a small, responsible committee, whose judgment should precede anything like a wholesale experiment by the professional public at large. This step would certainly clear away a vast amount of rubbish, would direct more extended research into definite lines, instead of the indefinite and haphazard roads it now runs upon in almost every instance. And I cannot help feeling it would prevent us doing the great deal of harm which is now done in the early stages of even our best proposals."

We cannot undertake to enter into a discussion of Mr. Tait's ideas. Many of his suggestions are quite sensible. But he certainly takes far too narrow a view of surgery, which is not mere mechanics requiring manual dexterity alone. One great trouble with Mr. Tait is that his pathology is so much at fault that he holds it in contempt. We are apt to do so with our weak points. The true surgeon of to-day should be well versed in anatomy, physiology, and pathology. To sink him down to the level of a mere expert craftsman would be degrading. So far from constituting progress, it would mean a lapse into something worse than mediævalism. Modern surgical science will not wait even for a Tait to catch up.

And the surgeon of the future will not be content to be a mere carpenter, who cuts the living for a living.

LIFE INSURANCE FOR PHYSICIANS.

About six months ago we took occasion to speak of the natural improvidence of the practising physician, and of the meagre provision that he generally leaves for the support of his family after his death. The moral which we drew from this fact and which we urged upon our readers was, that medical men, of all others, should insure their lives, so that their children might not be left destitute after the provider had been taken away from them.

We recommended that the physician should first of all become a member of the Physicians' Mutual Aid Association, if there were any in his neighborhood, and then, if he could, take out a policy in some regular life insurance company. The editor of the *Cincinnati Medical News* honored our humble article with a perusal, but it seems to have been a very hasty one, for he evidently misunderstood it completely. We did not advise anyone to insure his life in a mutual life assessment company as opposed to an "old time" company. Indeed, we had no thought of passing judgment upon the merits of the rival systems of

insurance. Reference was made only to the New York Physicians' Mutual Aid Association and to similar societies, if such existed in other States. This is not an insurance company, in the general acceptance of the term, for it has no high-salaried officers and pays no exorbitant agents' fees. Its objects are to furnish pecuniary aid to the widows of deceased members, and also to extend aid to the members themselves in case of need. Members of the Association are entitled to gratuitous treatment in certain hospitals, both general and special, in case of illness. It is an excellent society of medical men, and we are glad to learn that membership in it is rapidly increasing, and that physicians of the State outside of New York City are beginning to appreciate the advantage of belonging to an association of this sort.

We extend to our esteemed contemporary in the shadow of St. Paul's Church, the assurance of our highest regard, and beg him to pause and grasp our meaning before again subjecting us to the shafts of his discriminating criticism.

News of the Week.

The Cholera.—The cable reports the continuance of cholera in the Mediterranean provinces of Spain and even in the interior of the country. It is believed that the disease prevails much more extensively than the reports would indicate, the government having taken measures to suppress telegrams of an alarming nature. The disease appears to be advancing steadily along the African coast of the Mediterranean from Egypt in the direction of Morocco. Telegrams from St. Petersburg assert that cholera is raging at Vladivostock, a Russian naval fortress in the Northern Pacific Ocean. The Russian squadron stationed there has been compelled to leave, and the vessels employed in carrying convicts to the Island of Saghalien have been stopped for the present. Stringent measures have been adopted with regard to all vessels coming from the various ports of Asiatic Russia. The Russian Government has sent several physicians to Asia Minor to make experiments in the treatment of cholera with ferula sumbul, or muskroot, a plant which grows in Turkestan, and which possesses certain anti-spasmodic properties. It formerly enjoyed quite a reputation in Germany and Russia as a remedy for cholera, but has fallen out of use in recent times. Even its name is now unknown to most practitioners in those countries, although the plant is still regarded popularly as an efficient diarrhœa medicine. There have been several cases of sporadic cholera in Ohio which have been widely published in the daily papers, and have caused a great deal of unnecessary alarm to many timid souls. Sporadic cases of cholera occur nearly every summer in the Mississippi and Ohio Valleys, but it is only when the public mind is in an expectant state that these cases cause any apprehension.

Dublin Free from Typhus Fever.—It is stated by the Board of Health in Dublin that there has been no death from typhus fever in the city for the last fourteen weeks, and that probably during the present century so long a period had not previously elapsed without a death from that disease in Dublin.

The Pasteur Institute in Chicago.—Twenty-four persons have been treated in the Chicago Pasteur Institute since it was opened on July 2d. Of these one was bitten by a skunk, two by a cat, and twenty-one by dogs. In twelve cases the Director of the Institute believed the dogs were mad, of the remaining twelve he had some doubts. All the patients were treated by inoculations and escaped without injury.

A Woman's Medical College in Glasgow.—The late Dr. Henry Muirhead left £25,000 in his will to found a college of medicine and dentistry in Glasgow for women.

Dr. Frederick Arnold, Emeritus Professor of Anatomy in the University of Heidelberg, died recently at the age of ninety years.

Dr. James Mathews Duncan, late Lecturer on Midwifery in St. Bartholomew's Hospital, has died in London. Dr. Duncan was born in Aberdeen. After graduating in medicine in his native city, he went to Edinburgh and there became assistant to Sir James Y. Simpson. The latter was at this time studying the action of chloroform, and Dr. Duncan, it is said, was the first person upon whom chloroform anæsthesia was successfully tried. He was called to London in 1877 to become obstetrician to St. Bartholomew's Hospital.

The Marine Hospital Service.—The transfer of this service from the Treasury Department to the Naval Medical Service is said to be contemplated.

Antiseptic Duelling.—A duel was recently fought at a little village on the Belgian frontier in which everything was conducted under strict antiseptic precautions. The sword-blades were first placed in boiling water and then carefully washed in a five per cent. solution of carbolic acid. The surgeons were ready with a corrosive sublimate solution of one to a thousand and a number of gauze pledgets which had been rendered aseptic by thorough baking. Unfortunately for the success of the experiment, the duel was of the ordinary French kind, and the only wound received was a slight cut on the hand, which healed promptly after the application of a small piece of aseptic court-plaster.

Louisville has no Ambulance System, but an effort is being made to induce the city authorities to establish one.

The San Francisco Hospital.—Dr. J. H. Healy, Superintending Physician of the San Francisco City and County Hospital, has filed his annual report for the fiscal year ending June 30, 1890. It shows that 3,984 persons were treated at the institution during the year, of whom 3,679 were admitted since July 1, 1889. Of these, 404 died, and 182 were transferred to other institutions, the rest being cured or discharged improved. The total number of births was 136. The cost of the hospital for the year was $77,305.68.

Orificial Surgery.—The latest fad in medicine is known as orificial surgery. The disciples of this new cult look chiefly to the openings in the human form, believing, with the great bard, that all men have their exits and their entrances, and that if these are preserved in a normal condition the internal regions will take care of themselves. The oriphysicians recently held their third annual meeting in Chicago.

Cyanide of Gold is thought to be the substance used by Koch in his latest experiments to prevent the development of the tubercle bacillus in guinea-pigs, and which he claims he has succeeded in doing.

The Chalubinski Institute.—The sum of $5,000 has been given to establish an hygienic institute in Warsaw, in memory of the late Professor Chalubinski. The donor has modestly requested that his name be withheld, desiring that all the honor be given to Dr. Chalubinski's memory.

Gifts to a Hospital.—The North Adams (Mass.) Hospital recently received most generous offers from three citizens of the town. Mr. William A. Gallup will build a large wing to the building and add private rooms for patients. Mr. A. C. Houghton will assume the old debt of the hospital, in amount about ten thousand dollars, and Mr. C. T. Sampson will lay out about ten acres of land surrounding the hospital as a beautiful park and gardens. Mr. Gallup's gift is as a memorial to his wife, who died about six months ago, and who was President of the hospital and one of the greatest workers in building it up.

The Austin District Medical Society will hold its twelfth quarterly meeting in Austin, Tex., on Thursday, September 25th.

Failure of the Experiment to Vaccinate from Donkeys.—Some time ago Surgeon-Major O'Hara, after conducting a series of experiments, recommended the use of the donkey as a vaccine-lymph agent instead of the calf. According to the *Indian Medical Gazette*, the Sanitary Commissioner has now represented to the Government the inadvisability of using the donkey for this purpose, as from recent experiments and inquiries made he found their use would tend greatly to injure the cause of vaccination. In Trichinopoly, where the experiment was tried, the people refused to be vaccinated from the donkey, and treated it with ridicule. By some castes the donkey is looked upon as an unclean animal, and is held as the goddess of ill-luck. Vaccination is still backward and very unpopular with many classes; and it is pointed out that the introduction of the donkey as a lymph agent will render it still more unpopular and prove a bar to its progress.

Overcrowding in Australia.—The *Australasian Medical Gazette* sounds a note of warning to medical men who may think of emigrating thither in the hope of bettering themselves. It asserts that the number of medical men in the Australian Colonies is now very great, and as a consequence professional competition is perhaps more severe than in Europe or the United States. In support of this statement it says that there were lately no less than seventy-eight applications, by properly qualified men, for the post of resident surgeon to the private hospital of a Queensland mining company.

The Medical Practitioners' Protective Alliance is the name of an association formed in Baltimore, with the object of maintaining organized co-operation among practising physicians, for the purpose of protecting themselves against the dispensary abuse and inferior medical schools, and of devising means of improving their financial condition in every honorable way. Dr. J. H. De Wolf is the secretary of the association.

Coca-growing in India.—Erythroxylon coca, from which plant cocaine is obtained, is said by the *Indian Medical Gazette* to have been cultivated with much success in certain districts of the Southern Presidency, especially Tinnevelly and North Arcot. It is noted that the best results were obtained from the plants grown on the uplands, and that those planted in the hot low plains died away. It is intended to gather the leaves and send them to the Government Quinologist for analysis, with a view to ascertain their value as regards the percentage of cocaine.

The Wisconsin Training School for Nurses graduated its first class at the Milwaukee County Hospital on September 4th. The class numbered seven members.

Virginia State Medical Society.—At the meeting of the Virginia State Medical Society, held recently at Rockbridge Alum Springs, the election of officers resulted in the choice of Dr. W. W. Parker, of Richmond, for President, Dr. John W. Dillard, of Lynchburg, Dr. Jacob Michaux, of Richmond, and Dr. H. M. Patterson, of Staunton, First, Second, and Third Vice-Presidents, respectively; Dr. Landon B. Edwards, of Richmond, Recording Secretary; Dr. John F. Winn, of Richmond, Corresponding Secretary; and Dr. R. T. Style, of Hollins, Treasurer.

Female Medical Students in India.—The study of medicine is becoming very popular with the native women of India. At the close of the academic session in 1889 there were 24 female students at the Calcutta Medical College, 14 at the Campbell Medical School, and 5 at the Cuttack Medical School. At Agra, during the year, 7 young women received licenses to practise. At Lahore there were 19, and at Madras 39 female medical students, one of the latter being the first to take the degree of M.B. at the Madras University. There were also female students at the Grant Medical College of Bombay, and at the Government Medieal Schools at Poonah, Ahmedabad, and Hyderabad. The movement was initiated a few years ago by Lady Dufferin, the wife of the Viceroy of India. Madame Pim, a diplomaed surgeon from Paris, has settled down in Bengalore, and is doing a large practice among the Zenana ladies there. A Bengalore paper believes that there is ample room for a lady surgeon or two in the Mysore Province, and it is said that the Maharajah will offer a scholarship to any girl student of the Maharanee's College, who cares to enter on a course of medical study at the Madras Medical College. It is also stated in the *Indian Medical Gazette* that a large number of female pupils at the Agra Medical School have just passed their final examinations. These include several students who were especially sent by the Durbars of Ulwar and Tezpur and the municipalities of Etah, Fyzabad, and Raipur.

Yellow Fever at Port Limon.—An indignant denial has been cabled from San José de Costa Rica of the report that yellow fever prevailed at Port Limon. It is asserted that there is no yellow fever nor any other contagious disease at the port, nor is there any foundation for apprehension of an epidemic. The Costarricense complain bitterly of the closing of the port of New Orleans against vessels from Limon, and hold that there would be equal justice in closing Limon against vessels from New Orleans.

The Canadian Medical Association.—At the annual meeting of this association, held in Toronto on September 9th, 10th, and 11th, the following officers were elected for the coming year: *President*, Dr. T. G. Roddick, of Montreal; *General Secretary*, Dr. Birkett, of Montreal; *Treasurer*, Dr. W. H. B. Aikins, of Toronto; *Vice-Presidents*, Ontario, Dr. A. H. Wright, of Toronto; Quebec, Dr. S. P. Lachapelle, of Montreal; New Brunswick, Dr. S. H. Coburn, of Fredericton; Nova Scotia, Dr. John Stewart, of Pictou; Manitoba, Dr. D. Young, of Selkirk; British Columbia, Dr. E. A. Prager, of Nanaimo; Prince Edward Island, Dr. Taylor, of Charlottetown; Northwest Territories, Dr. E. A. Kennedy, of MacLeod. The next meeting will be held in Montreal.

A Two Hundred Thousand Dollar Libel Suit.—Suit has been entered by the manufacturer of Radam's Microbe Killer, against the *Druggists' Circular*, of New York, for $200,000 damages, the largest amount, it is said, that was ever asked for in a libel suit of this kind. The pleadings show that the action is brought to recover damages claimed to have been done the business of the plaintiff by an article published in September, 1889, which gave the result of an analysis of the Microbe Killer made by Dr. R. G. Eccles, of Brooklyn. The *Druggists' Circular* expresses a desire to hear of any case in which unfavorable results have followed the administration of the Microbe Killer, or of any other fact that would be interesting under the circumstances. It claims to have published this analysis without malice and with the sole intention of protecting the public from the loss of their health and money.

Dr. James R. Goffe has been appointed Visiting Gynecologist to Randall's Island Hospital.

A Successful Strike.—The strike of hospital internes at Ghent has resulted in a victory for the medical officers, and in future the management of the medical services will be under the control of the director and two senior members of the staff.

The First Shall be Last.—There is a curious law in France which decides upon the precedence among twins by asserting that the one born last is the elder. This law is based, it is said, upon the statements of certain medical authorities consulted by the government, who came to the conclusion that the last born of twins was always the first conceived.

Wholesale Asphyxia on Shipboard.—An Italian correspondent of the *Lancet* relates a strange case of gas-poisoning which occurred recently in Sicily. At Milazzo, a seaport of that island, a bark had put in after a voyage from Genoa, having in her hold by way of ballast a number of wine-butts which, encrusted on their insides with tartrates, had, to give them the necessary weight, been filled with salt water. On coming into harbor these butts had to be emptied before refilling them with wine, and for that purpose one of the crew, having raised the trap-door admitting to the hold, went down to tap them and run their contents through the drain-holes into the sea. No sooner had the bungs been knocked out than forth rushed a poisonous gas, which took the man's breath away, and made him fall, a corpse, into the escaping salt water. In ignorance of what had happened, a second mariner, then a third, and finally a fourth went below—each in turn to be asphyxiated instantaneously and fall headlong into the salt water, now of some depth in the hold. As the butts continued to empty the poisonous gas increased, and the captain, wondering that none of the four men reappeared, went, out of curiosity, to the trap-door, only to receive a tremendous rush of the gas in his face, and to fall below, asphyxiated and drowned. The cabin boy, the sole survivor out of a crew of six, seeing what had happened shouted wildly for help to the bystanders on the quay. Assistance soon came, and the stifling fumes, by this time escaped or so diluted as to be innocuous, admitted of the newcomers looking down into the hold. There were the five men, quite dead, floating in the water. The corpses were hoisted up with ropes, and the medical officers, who had now arrived, pronounced them past recovery. They explain the tragic incident, fortunately a very rare one, by supposing that the salt water, enclosed in the wine butts during many hot days of midsummer, had from contact with the incrustation of tartrates developed a fluid which, assuming the gaseous form, becomes a powerful asphyxiant. Had this danger been foreseen it might have been averted by hoisting the butts out of the hold, and then plunging them into the sea, where they could easily have been tapped, and have so discharged their poisonous contents to be diluted and made harmless in the water.

Aristocratic Nurses.—As showing that nursing is becoming fashionable, it is asserted by a writer in the *British Medical Journal* that Princess Helen Cusa is a nurse in the Children's Hospital, Jassy; Countess Asta Blucher has been nursing the invalids of Captain Wissman's force at Zanzibar; Miss Godolphin-Osborne, niece of the Duke of Leeds, is matron of the Leamington Hospital for Incurables; Lady Leveson Gower is a nurse in one of the metropolitan hospitals; and Lady Amberley and Baroness Ebba Bostron were trained at St. Mary's Hospital, Paddington, a few years ago.

Curettage of Soft Chancres.—Dr. O. Patersen, in a paper read before the Syphilo-dermatological Society of St. Petersburg, gives some interesting statistics from the wards of the Alexander Hospital concerning soft chancre. The total number of these cases treated as in-patients, during the seven years 1881–1887, was about 3,000, and the mean number of days they remained in hospital was 27.5. In 1888 the number of in-patients was less than half what it had been in any previous year, and the mean number of days they were kept in was only 20.7. The explanation of this difference is, that during 1888 the treatment systematically pursued was that of scraping out the chancre with a small, sharp spoon, just in the way in which lupus is treated. This plan was found to answer so well that a much larger proportion of the cases could be treated as out-patients than under other methods of treatment, besides which the severer cases which had to be admitted into the wards recovered in considerably less time. An objection to the operation is its painful character; but, according to Dr. Petersen, it is not much more painful than the application of caustics; besides, by a subcutaneous injection of cocaine ten minutes previously the pain can be avoided. Any ordinary antiseptic dressing suffices.—*The Lancet.*

Responsibility of an Operator.—An important trial has lately come to an end in Belgium, in which a medical man, Dr. Deschamps, of Liege, was the defendant. The plaintiff's complaint was that the defendant, in his capacity as surgeon to the Hospital des Anglais, at Liege, had operated upon his child without his consent, the result being that the child was lamed for life. No charges of malpractice or unskilful treatment was made, the whole burden of the complaint resting upon the lack of the father's consent. It appeared, however, that the mother, after having been told that an operation ought to be performed, brought the child again—after consultation, as she said, with the grandmother—in order that it might be done. Long afterward the father, incited, as is supposed, by some malicious or evil-disposed person, appeared for the first time on the scene, demanding enormous damages. The case was tried before the ordinary court, and the plaintiff was successful in obtaining a verdict for 10,000 francs damages. An appeal was arranged, however, and it is this which has now been concluded, the judgment being for the defendant. Dr. Deschamps is to be sincerely congratulated.—*Hospital Gazette.*

A Rival to the Madstone.—A story comes from Connecticut of the cure of a man dying from a snake-bite, the affected leg being already gangrenous when treatment was begun. The recipe was one stolen from a poor old Indian while he was drunk on hard cider, and reads as follows: "Make a ginger poultice from clear ginger and warm water, and place same at pit of the stomach. Take handful of leaves or rods of the common plantain; handful of white ash leaves; equal quantity of horseradish; steep in two quarts of water; take half a gill of mixture once an hour until pain subsides. Take a teaspoonful of mashed bloodroot and bind on the wound, renewing occasionally. When the bloodroot is changed wash the wound in a tea made of black kohosh root." The remedy is said to be just as efficacious in preventing the evil effects of a bite from a mad dog.

Uterine Vomiting Independent of Pregnancy.—Much has been written of late years on the subject of the vomiting of pregnancy and its most aggravated form, hyperemesis gravidarum, or uncontrollable vomiting. Dr. Lamy has recently written on cases in which troublesome vomiting has been observed as associated with other phenomena of the female generative system besides pregnancy. He began with a case of vomiting at puberty. A girl, aged 14, suffered severe pain before her first period. After that period the pain ceased, but an attack of vomiting followed every meal. No drugs were of any avail, and the patient had to be fed with a drachm of beef-tea every half-hour. When the menses became regularly established the vomiting ceased, and did not return during the first pregnancy, six years later. Dr. Lamy related two obstinate cases of vomiting during the period in adult women. In one, vomiting invariably followed sexual intercourse. The patient became pregnant, but after she bore a child the vomiting always returned under the same circumstances as before. Treatment proved unsatisfactory. Lastly, Dr. Lamy noted a case of vomiting at the climacteric. The patient was fifty years old, the period was becoming very irregular, and occasional disturbances of the alimentary canal, especially vomiting, set in. Treatment, as in ordinary dyspepsia, gave relief. This last case might be explained by many physicians as simple gastric catarrh, due to errors in diet or other causes, rather than to changes in the uterine functions. It is clear that the vomiting of pregnancy is very common, and almost normal. On the other hand, vomiting at puberty, during menstruation, after coitus, or about the menopause, must be considered abnormal.—*British Medical Journal.*

The Decline of the Spank Cure.—The Chicago *Inter-Ocean* deplores the waning popularity of this time-honored practice. It says that among the good old customs which are falling into disuse, that of spanking the coming generation into behaving itself is leading the procession. There are no such spankings now as there used to be. Things in the spank line are certainly degenerating, along with the drama, the flavor of strawberries, and phenomenal weather, as the years go by. Children just entering the heated, base-burning epoch of spankhood now have "nerves" and must be humored. They get to balking and sulking, and the family physician is called in when the good old housewife remedy of a warm application of slipper is all that is needed. The spank cure is not appreciated in this generation as it was in the last.

The Shameless Poor versus the Deserving Poor.—In Paris, recently, a family of eight attempted suicide, with such success that only one, the mother of six children, survived. The *Eclair* says, apropos of this peculiarly distressing affair: The man, a draughtsman, has sought work at his profession, but has found none. He is strong; he has good arms and great needs; he offers his strength. He will work at anything, it matters not what; but everywhere he meets the same disheartening response: "No work for you!" Out of work, out of money, and six hungry children. "God," said Briollet, "blesses large families—only, he does not feed them." Death seemed to be preferable to the misery of life. They prepared the charcoal brazier, one helping the other. They stopped up the openings. They embraced one another; they prayed together; they lay down—the mother on the bed with the youngest child, the father near her; the others, side by side, on the floor. And they waited, in sleep or in tears. Toward four o'clock in the morning, the father arose and relighted the brazier. An hour of anguish followed. The mother, who alone survived, has narrated, it seems, that one daughter cried out, that the father threw himself toward his daughter. But from that moment the mother lost consciousness. The Paris Journal continues, that death had had the cruelty to let her live. It is true they did not importune the Department of Charities. But there remains this mortal shame, this horrible crime, a father and mother, brave, esteemed, honorable, industrious, have killed their children and have willed their own death, because worn out by hunger. Much is done for the poor—but nothing is done for the poor who are proud. Official charity assists only the shameless poor, and shameless poverty is often no more than an exploitation of pity. Our system of assistance should be reconstructed from top to bottom. Are the deserving poor helped in New York as they should be, or do the undeserving ones monopolize our uncharitable charities?

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Fifty-eighth Annual Meeting, held at Birmingham, England, July 29, 30, 31, and August 1, 1890.

(From our Special Correspondent.)

(Continued from page 311.)

SECTION IN MEDICINE AND THERAPEUTICS.

THIRD DAY, FRIDAY, AUGUST 1ST.

SIR DYCE DUCKWORTH, PRESIDENT, IN THE CHAIR.

Functional Disorders of the Heart, was the subject opened for discussion by the President. Such diseases, said Sir Dyce Duckworth, are very frequently met with in practice. He referred to those derangements of the functions of the heart which could not be shown during life or after death to be connected with organic lesions. A physician who was a clinical observer was an artist, not a mere scientific man; and he must make use of the varied sciences which threw light on the obscure subject of the cure of disease. Symptoms of disease at the bedside resembled the post-mortem appearances seen in the dead-house, and must be studied alone and treated often without any help from physiology or pathology. He divided functional disturbances of the heart into five groups: 1, Slow pulse; 2, intermittent; 3, irregular; 4, frequent pulse; 5, inordinate vascular pulsation. Slow pulse was most frequently noticed after acute diseases, and was found in cases of malarial poison, after jaundice, or with increased arterial tension. Injuries to the head, meningitis, or cerebral abscess were causes of this form of pulse. In malaria, he concluded that some change had taken place, probably in the nerve-centres. In intermittent pulse there was regularity, but a beat was dropped occasionally. Sometimes this disorder was of but little import, at other times it was highly important. Irregularity was of graver import than intermittency. This disorder of the heart's action might be caused by tea-drinking or tobacco-smoking; and, in such cases, if the patient could be persuaded to have better habits he would get well. The irritation set up by dyspepsia was a frequent cause of intermittent pulse; and it would often be found that the erect posture would put an end to the symptom. He believed that, in such cases, the gastric branches of the sympathetic nerve were in fault. Pulses of high tension, when intermittent, were of graver importance, for the weak heart was apt to fail under pressure. Constant intermission was not always of serious import, and in many cases was due to the excessive use of tobacco, tea, or coffee. Chloroform often removed the intermittency. The causes of irregularity were flatulent dyspepsia, abuse of tea, coffee, and tobacco. The prognosis in such cases depended on the soundness of the heart. It was apt to supervene in gouty patients after middle life. In cases of chronic eczema the irregularity might cease when an attack of itching supervened. The causes of inordinate frequency were to be found in dyspepsia or in profound nervous disorders. Paroxysmal attacks of inordinate frequence were occasionally witnessed in cases of chronic rheumatic arthritis. Bristowe thought that such cases might develop into permanent disease, and terminate fatally. Pulses of this kind might at one time be as high as 200, and then fall to 34 per minute. This form of functional disorder occurred pretty nearly in equal numbers in both sexes; and was most commonly met with in middle life. Rheumatism and syphilis might exist with it. Lastly, in the cases of inordinate vascular pulsation, this was to be found chiefly in middle life, and in leucæmia. No grave morbid change was found in such cases after death. There was some loss of vasomotor control. Hysteria and gout were both causes of this form of functional disturbance of the heart. Then there was the irritable heart of young men, and this was often met with in young recruits for the army and navy although more commonly in the army when drill was too incessant for the strength. Such cases often led to slight hypertrophy of the heart, for which the recruit was dismissed. Graves' disease was probably dependent on neurotic affection, and there were several grades of it. Affections of the cervical ganglia or medulla oblongata might be a cause. Exertion had the power of subduing palpitations, when they were of neurotic causation, but not when due to organic lesions. In some cases of so-called "functional disorders of the heart" the symptom was probably only the precursor of some organic disease. The cerebral system was apparently in fault, and the inhibitory action of the sympathetic seemed to be withdrawn. There was often more or less decay of these centres of nutrition. Sometimes inherited neurotic disease existed. With regard to remedies, he had not found either aconite or digitalis of much service in such functional disorders of the heart. Iron, cod liver oil, and the various bromide salts were sometimes useful.

DR. RICKARDS, of Birmingham, said that the study of functional diseases of the heart had been much cast into the shade by organic disease, and hence they were much less clearly made out. Indeed, it would be hard to find in two text-books the same classification of these diseases. He did not know why Sir D. Duckworth had omitted angina pectoris from the list of such disorders. The irritability of the heart in young men was attributed by Sée, of Paris, to hypertrophy; but this had not been admitted by other authorities, who pointed out that the apex-beat was in its usual position in such cases. He held that it was not possible to be certain that all functional disturbances of the heart were neurotic in character. Angina pectoris was considered by some to be due to increased arterial tension, while others believed that it was caused by ischæmia. Some held that Graves' disease was due to a blood disease. As a rule, functional disturbance was connected with weakness of the organ, so that it was not clear that the nervous system was always in fault. Weak hearts might go on working efficiently until extreme old age, and only break down under undue strain. Slow pulse, or a pulse under forty, must be chronic to be significative. Such cases were not frequent; but frequent enough to be important. They seemed to follow sometimes after injuries to the medulla oblongata, and were never clearly congenital. He mentioned a case of slow pulse in a boy, aged fifteen, who had also an organic lesion of the heart.

DR. SOUTHEY mentioned a case when a man had suffered from slow pulse (pulse 20) for years. He himself had had a gentleman under his care who had, during his life, had a pulse of 30, for thirty years at least, and regular. This man was vigorous in mind and body, and with no symptoms of organic disease of the heart. He was still alive at the age of eighty. Injury to the neck had been mentioned as a cause of slow pulse; but, in one case where the patient had fibroid thickening of the upper membranes of the cord, the pulse was quicker than normal. Charcot, in his "Diseases of the Nervous System," mentioned three cases of slow pulse, and maintained that the medulla oblongata was in fault in these cases. Great mental anxiety might bring on slow pulse; but in most cases of this form of disorder of the pulse organic disease of some kind was traceable. No one cardiac disease was in fault. Dr. Russell, of Birmingham, had collected 38 such cases, and in 30 of them organic disease was found to coexist. In 3 cases of slow pulse, from 26 to 38 per minute, all had been accompanied by organic disease; and all were subject to fits, with giddiness and dyspepsia. All were middle-aged men. The prognosis much depended on the symptoms observed. The brain suffered first and fits were of frequent occurrence. He had found no benefit in functional disturbance of the heart from digitalis or from strophanthus. An albuminous diet had proved of service; that and freedom from exhausting labor were the most serviceable parts of treatment.

Dr. Edison, of Leeds, did not agree with the term functional disease of the heart. All such irregularities, doubtless, were associated with some lesion of the organ, although this might not be discoverable by any kind of examination accessible to the clinical inquirer. It would, he thought, be very unwise of clinical practitioners to cut themselves adrift from experimental physiologists, and not take account of the result of the labors of such inquirers. It must be remembered that a man with a radial beat of 40 per minute might have a cardiac pulse of 80; but the organ might be too feeble to affect the wrist pulse oftener than once in every two pulsations. Thus the fatty heart was often incapable of causing such radial pulsation. Gouty people might have rapid pulsation in consequence, probably, of retention of the secretions, and because the nerve-centres were irritated by these secretions. The rare examples of slow pulse which were met with every now and then were curious, just as a man of six feet seven inches was a curious and rare specimen of the race. After all, the average pulse was merely the average pulse, and persons might have peculiarities in this matter and yet be in a perfectly normal condition. Poisoning by tobacco, tea, and other like substances were other examples probably of poisoning of the nerve centres. In such cases it might happen eventually that the heart would become organically affected. It might eventually become dilated. Men who took long railway journeys and led sleepless and rackety lives were liable to have disorders such as those under discussion, but the difficulty sometimes was to say what cases were to be considered as functional and what cases organic. Angina pectoris had, in his experience, always been associated with some organic lesion of the heart.

Dr. Thomas, of Bournemouth, looked upon functional derangements of the heart as symptoms, and for some years had had a classification of his own for them. The first group of causes of these disorders referred to dyspeptic disease. They were found in catarrh of the stomach, in constipation, and in enlargement of the abdomen from various causes. Next came the neurotic group, and here tea was a very common cause, partly because strong tea tended to produce dyspepsia. The use of tobacco, also, was frequently followed by functional cardiac disturbances; and alcohol, too, was at first a stimulant and then a depressant of the pulse. One of the most common causes of functional heart disorders was onanism or excessive venereal indulgence. Thirdly, chlorosis caused such functional disorders of the heart, and mental disease might also be a cause of such disorders. With regard to angina pectoris, that was an organic disease, and depended on disease of the heart or arteries. Some cases of Graves' disease might exhibit no exophthalmos. The treatment of such disorders consisted in removing the exciting cause.

Dr. Markham Skerritt, of Clifton, observed that there was no reason to say that any particular rate of pulse was abnormal, when there was no physical sign of disease of the heart. In those cases in which people were found to have slow pulses the condition was probably often constitutional. Doubtless, in speaking of functional disturbances of the heart, the pulsation of the organ itself was referred to, and not merely the radial pulse. In cases where the patient complained of short breath on exertion, although it might not be possible to say that organic disease was supervening, yet it might sometimes be predicted, with great probability of the prognosis proving true, when there was disorder of the pulse. It was impossible in some cases to distinctly state that there was no organic disease of the heart; but this might be only temporary and curable.

Sir Walter Foster, M.P., of Birmingham, said that he could only offer some few remarks on the subject of a desultory kind, as his time and thoughts of late had been so much taken up with other topics beside those of clinical medicine. He spoke of the affection styled "runaway heart" and incipient Graves' disease. This part of the subject required further study. On putting patients with that form of functional derangement into the recumbent position but little effect was produced on the rate of the pulse. He had found neither digitalis nor aconite of any service in such runaway pulses, and the only drug that had proved of service in his experience in similar cases of rapid pulse was quinine in large doses, such as ten grains thrice daily. Some years ago a lady consulted him for rapid pulse and slight swelling of the thyroid gland, with proptosis, all of which were symptoms of exophthalmic goitre. She was reduced to the last stage of weakness. He sent her to the bracing air of Rhyl, in North Wales. This lady had not had children for some years, but at Rhyl she became pregnant, and then she became greatly better and nearly quite well. The moral of this was that many of such cases were under the influence of the mind, or under those of sexual emotions. In youth, when the sexual organs were developing, such functional disturbances were commonly met with. He would like to mention, in connection with the treatment of such cases, that they had derived much benefit from the use of the continuous current applied to the sympathetic in the neck. In one lady the pulse was thus reduced five or six beats in the minute, and she did very well after a time.

Dr. Strange, of Worcester, narrated his own case of functional disturbance of the pulse. During the influenza epidemic in February last, he rose one morning feeling very sick. After luncheon he went to the railway, but was too weak to ascend the steps, so he went home and dined. He had no pain, but on going to bed he felt very cold and began to shiver. His pulse was only fifteen or sixteen per minute, and irregular. He had recourse to stimulants (brandy) and a medical friend visited him and suggested that he had angina pectoris. This, however, appeared impossible, as he had no pain. In five or six hours ether and doses of strophanthus did much good. Next night a violent cough supervened, and this continued for three nights. He had gastric catarrh, and then the attack passed off as it had come, leaving him with his normally tranquil pulse and health. Supposing that this attack had only been a little worse, he felt that his pulse might have stopped altogether; and this accounted for the large mortality of certain historical epidemics which had occurred in the Middle Ages and carried off thousands.

Dr. Drysdale, of London, thought that all that was meant by the term "functional disorders" of the heart was that in such cases no symptoms were heard of what was styled organic disease of the heart. His classification of such disorders was according to causes, and he held that, firstly, dyspepsia was a very common cause of such derangements; but that, above all, they were most frequently due to overdoses of nicotine, tea, or coffee. Tobacco heart disorders were extremely common in those days, when even able medical men were in the habit of smoking cigars and cigarettes, and even, *mirabile dictu*, pipes of strong Virginia tobacco. He could not help saying, in passing, that medical men should set an example of avoiding such dangerous poisoning of the nerves; and, doubtless, after this debate, fewer doctors would smoke or use tobacco in any form. Alcohol, too, was a very frequent cause of functional heart disorders; and so were tea and coffee, when strong infusions were partaken of. Onanism was also a most common cause of quick and irregular pulse, and it was often by means of such perturbed palpitations in youths that the dangerous habit might be diagnosed. He thought that conjugal relations were far more rarely causes of disturbances of the heart's action than onanism; indeed, it was rare to see such disease even in young married couples, although these often were rather rash in such matters. Hysteria and insanity were often accompanied by functional disturbance of the heart and so was chlorosis and pernicious anæmia. Angina pectoris, in his experience, was always accompanied by disease of the heart or arteries.

Dr. Drummond, of Newcastle-on-Tyne, narrated the case of a gentleman with cardiac hypertrophy, and with a pulse of only 13 to the minute. This gentleman, however, enjoyed fairly good health. He developed influenza and then had a pulse of 36 to 40. He, Dr. Drummond, was suddenly sent for by this gentleman and found him in a fit and with epileptiform convulsions. In a few hours there was another epileptiform seizure, and the pulse fell to 5, 10, or 15 per minute. This slow pulse preceded the attack of epilepsy. In this case, influenza caused slowing of the pulse.

Sir Dyce Duckworth, in reply, said he had left out angina pectoris from his paper because that affection, in his experience, was due to some organic malady. The debate had been most interesting, and showed that in the consideration of functional disorders of the heart attention ought to be paid to the personal factor as well as to the mere symptom. Doubtless the heart in some persons was larger than in others. With regard to treatment, the only suggestion as to special drug medication had come from Sir W. Foster, and the suggestion of large doses of quinine ought to be borne in mind in the treatment of the cases which he had referred to of runaway heart.

Dr. Haig, of London, read a paper "On Some Vascular Effects of Uric Acid." He observed that his object was to explain that the cause of much of the derangements of the heart's action referred to in the previous debate was due to the presence of excess of uric acid in the blood. Some years ago he would have spoken of headache or megrims as the symptom *par excellence* of the retention of uric acid, but he now considered that many diseases, such as rheumatism, epilepsy, gout, and functional heart disease, might be explained by this cause. The tension of the pulse was produced by the irritation caused by this poison, which caused contraction of the arterioles throughout the whole body, and when uric acid was in great quantities in the blood it caused a scanty excretion of urine, and other secretions. When this was the case there was an attack of melancholy, whereas, when the arteries were dilated in the brain and elsewhere, there was a cheerful and hopeful feeling of mind. Alkalies assisted in the excretion of uric acid, while acids tended to diminish the excretion. Suicide, according to Dr. J. Bertillon, was more prevalent in summer than in winter, and he, Dr. Haig, attributed this to the less facile excretion of the poison of uric acid during the heats of summer. Again, many suicides followed the influenza epidemic, and this he also attributed to the retention of uric acid caused by the disease. In fevers the uric acid went from the blood into the liver, spleen, and joints, and this caused pain in these regions and low tension in the arteries. As soon as the fever was recovered from the blood became again overcharged with uric acid. It was in the early morning hours that the excess of uric acid in the blood was greatest, after the acid tide of the night, which was at its height at midnight. On this account rheumatic pain was apt to be worse at night, and rheumatic fever. In the morning there was a high tension pulse, and at that time the urine was often very scanty. By influencing the excretion of uric acid the tension could be lessened. Epileptic attacks supervened when the urine was scanty, and it was then, when the pulse had a high tension, that the fits most frequently occurred. Hysterical attacks also were often due to the same cause. The retention of uric acid would, moreover, best account for the stupor of epilepsy, which was ill accounted for merely from nervous exhaustion, the ordinary cause assigned. The greatest amount of urine was excreted in the daytime, when the alkaline tide was at its height, the least at night, when the acid tide was fullest.

Sir Dyce Duckworth praised the very great pains taken by Dr. Haig in his most careful observations in the retention of uric acid. It was very rare indeed, he added, that English physicians were so patient and persevering in such researches, and this was greatly to his credit.

Dr. Little spoke of the power of influenza in the excretion of uric acid. In one case he had found that the excretion of this substance had been quickly promoted by the use of vapor-baths.

Dr. Drysdale, of London, said that, having read most of Dr. Haig's learned communications, he was greatly pleased with the way in which that author attempted to account for so many painful and distressing maladies by attributing these to the presence of uric acid in excess, either in the blood, the joints, or the internal organs. The misfortune was that the process for the discovery of uric acid was, as yet, so difficult, as compared with that for the quantitative estimate for urea. Consequently very few clinical observers had been able to check the results arrived at by Dr. Haig. He wished to ask a practical question, and that was, What was the remedy which Dr. Haig considered the most suitable for eliminating the excess of uric acid from the system? As he was physician to the same hospital, he believed he was not far wrong in saying that Dr. Haig had great faith in the salicylate of soda; but he would like to hear what he himself said publicly.

Dr. Haig, in reply, said there was an excess of uric acid in the joints in rheumatism and in the blood in epileptic seizures. He could produce an attack of megrims in himself at will by certain drugs. In cases of headache from retention of the acid he first treated the patient by opium and when the pain was relieved he administered salicylate of soda to eliminate the uric acid.

Dr. Herringham, of London, narrated a case of "Intermittent Albuminuria" which he had recently treated in the West London Hospital. This occurred in a boy, who was in-patient at that hospital and in whom the albuminuria faded away in the evening to a very small quantity. After an attack of rheumatism the patient had no albumin for a few days. The results of his study of the case were: Firstly, that the position of the patient was the most influential of all parts of the treatment and that no other factor seemed to produce any particularly striking results. When the patient lay on the back for some time, there was less albumin in the urine; and this he attributed to the position of the kidneys and their blood supply. Diet had but little effect, as was also the case with drugs. Some excretion of oxalic acid was noticed but no casts were seen in the field of the microscope in this case.

Dr. Drysdale, of London, asked if there was any history of scarlet fever in the case of the boy, and on the author assuring him that there had been no such history, he said that it was a very difficult matter to judge of the importance of such cases as were styled "intermittent albuminuria." His impression was that in almost all such cases, where the albuminuria was clearly made out by heat and nitric acid there was a dangerous prognosis, and that sooner or later the patient was likely to be seized with some of the many complications which caused albuminuria to be rejected by all cautious examiners for life insurance. There were cases where a slight cloud was produced by the use of other agents; but he thought that these were not clearly cases of albuminuria, which required the greatest caution on the part of the patient to treat it successfully.

Sir Dyce Duckworth said that it was the custom of all examiners for life insurance in cautious companies to refuse cases where albuminuria existed. Doubtless some injustice might be done to certain cases, similar to those mentioned by Dr. Herringham, but as the medical advisers to the companies had but little time to go into the histories of the cases, he considered the rule a wholesome one.

Dr. Rickards said that Sir D. Duckworth had referred to life offices. His own way of testing for albumin was firstly to boil and then add acetic acid, and then to use the cold nitric acid test, allowing the urine to float on the surface of the acid and watching if a ring formed at the junction of the two fluids. When he detected a cloud in

such cases he could not recommend the case for insurance. In two cases he had recently rejected one died shortly after and the other made no further application to the office. Even apart from any subsequent nephritis, the occurrence of albuminuria was alarming.

DR. EDISON, of Leeds, also considered that the presence of albuminuria was a "danger signal."

DR. HAIG said that the attack of acute rheumatism mentioned in the case was very interesting, in having caused a temporary cessation of the albuminuria, as was also the presence of oxalic acid; both of these circumstances might act on the kidneys and cause irritation and excretion or retention of uric acid. He could not, however, attempt to account for the albuminuria in that case by this supposition.

DR. HERRINGHAM, in reply, said he had not in any way wished to couple Dr. Haig's theory with the history of this case; and he thought that the occurrence of oxalates was too common to be of importance in the history of the case.

DR. SHOEMAKER'S paper was taken as read, in his absence, and the Section adjourned.

TENTH INTERNATIONAL MEDICAL CONGRESS.

Held in Berlin, August 4, 5, 6, 7, 8, *and* 9, 1890.

(Special Report for the Medical Record.)

(Continued from page 307.)

SECTION ON OBSTETRICS AND GYNECOLOGY.

FOURTH DAY, THURSDAY, AUGUST 7TH.

Treatment of Osteomalacia by Castration.—DR. TRUZZI, of Milan, reported two cases treated in this manner. The first case was a woman, twenty-seven years of age, who had suffered since her first pregnancy from osteomalacic pains. When the second pregnancy occurred it was found that the pelvis was already narrowed and it became necessary to induce premature labor. Double salpingo-oöphorectomy was performed. No disease of the adnexa was found. The disease seemed, however, to be arrested, the pains rapidly grew less, and finally ceased entirely, and the pelvic deformity did not increase any further. The second case was one of non-puerperal osteomalacia, occurring in a delicate woman, thirty-four years of age. She suffered from osteomalacic pains, could not walk, had marked right dorsal lateral curvature with deformity of the pelvis, and had diminished in height. Double salpingo-oöphorectomy was performed as in the first case. There was no apparent alteration in the uterine adnexa. The left ovary was, however, somewhat thickened, weighed thirteen grammes, and contained in its centre a sarcomatous nodule. The improvement in the patient's condition following the operation was very noticeable. The author said that an explanation of the benefit derived in these was very difficult to make. Nevertheless, although the remedy is almost a purely empirical one, there is some rational ground for the operation, since it removes all danger of pregnancy with its aggravation of the existing disease, and it also arrests the menstrual function, which in itself is injurious to the patient suffering from this peculiar disease.

Puerperal Osteomalacia.—DR. FEHLING, of Basle, followed with a paper on the nature and treatment of puerperal osteomalacia. He recalled the former grave prognosis of the disease and the wonderful change that was noted in certain cases after the performance of Porro's operation. The improvement following the removal of the uterus and ovaries in these instances led to the thought that ovariotomy might be of benefit even in non-puerperal cases. The speaker had operated in nine instances, and had obtained a cure in eight; one died from obstruction of the bowels in consequence of adhesion of the intestine to the uterus. The patients varied in age from twenty-eight to fifty-one years, and one had suffered from the disease for thirteen years. In studying the cause of the disease examination of the urine and also of the blood gave negative results. The speaker had formerly inclined to the belief that the affection was of an infectious nature, but since observing the good results of operation he had abandoned this view. Jaksch had asserted that the alkalinity of the blood was diminished, but the author had been unable to satisfy himself that this was correct; in the cases upon which he had operated he could detect no difference in this respect before and after the operation. It had been thought that the cure after operation was due to the fact of the cessation of menstruation, but this could not be sustained, for in some of his own cases the women had ceased to menstruate for several years, and yet the improvement did not appear until after the operation. It is a fact, however, that the affection usually seems to advance during the menstrual period. This is deserving of some consideration in our search after the cause of the disease. Other points that demand attention in this regard are:

1. The extremely rapid subsidence of the pain after operation, that felt in the ribs and sternum disappearing before that of the pelvis.

2. The surprising richness in venous and arterial vessels of the extirpated adnexa, with dilatation of the same as in pregnancy, seems to point to a fact of importance in an etiological sense. Macroscopical and microscopical examinations of the extirpated ovaries have, however, failed thus far to reveal any important changes, either in the parenchyma or in the connective-tissue of the organs.

3. It has been shown that a remarkable fertility exists in osteomalacic women, and this fact points to an increased functional activity of the ovaries, for even after the disease is in full progress pregnancy occurs with great frequency.

Reviewing all the facts which have been noted up to the present time, Dr. Fehling was inclined to regard the affection as one residing primarily in a pathologically heightened activity of the ovaries. This leads, through reflex action upon the vaso-dilators, to dilatation of the vessels of the bones, inducing hyperæmia and consequent absorption of the osseous material. The immediate effect of castration is to remove this reflex stimulation of the vaso-dilators, and thereby follows contraction of the vessels and an arrest in the progress of the malady. Considered from this point of view, osteomalacia may be regarded as a reflex trophoneurosis, analogous in some respects to struma and Basedow's disease.

Hæmatocele and Hæmatoma.—DR. J. VEIT, of Berlin, read a paper on this subject. He contended for a more definite and distinct nomenclature of the various forms of hemorrhage within the pelvis. The term, intra-peritoneal hemorrhage, should be held to mean an unconfined hemorrhage into the peritoneal cavity; hæmatocele is encapsulate hemorrhage into the peritoneal cavity; a hæmatoma results from hemorrhage into the connective-tissue. Free hemorrhage into the healthy peritoneal cavity can never give rise to an hæmatocele, the essential condition for which is either complete encapsulation over the bleeding-place or slow bleeding into a peritoneal cavity, with more or less numerous adhesions. In hæmatoma the bleeding is stanched by the pressure of the connective tissue lined on the outside with peritoneum.

In the case of intra-peritoneal hemorrhage, if the bleeding stops the blood is absorbed; if it does not stop death is the result, for intra-peritoneal pressure on the bleeding-place does not suffice. The diagnosis of free hemorrhage into the peritoneal cavity is based on the general symptoms of anæmia, without any objective symptoms in the peritoneal cavity, if every other internal bleeding is out of the question. Free blood in the peritoneal cavity cannot be felt either in a fluid or in coagulated state. It is generally easy to distinguish between hæmatocele and hæmatoma, and experience teaches that in difficult cases it is unimportant. In both diseases the

presence of a tumor is necessary. As to the treatment of hæmatoma and hæmatocele agreement already exists. In the case of free bleeding into the peritoneal cavity, and with negative result of examination and severe general symptoms, the peritoneal cavity must be opened.

MR. LAWSON TAIT, of Birmingham, agreed wholly with the previous speaker as to the desirability of a more accurate definition of the varieties of intra-pelvic hemorrhage. The term hæmatocele might, he thought, be very conveniently employed to refer to hemorrhage within the peritoneal cavity, and hæmatoma might be confined to bleeding within the cavity of the broad ligament. The treatment of each was most diverse. Hemorrhage into the peritoneal cavity demanded immediate abdominal section and ligature of the bleeding-point, while bleeding into the lower ligament might safely be left to itself in the great majority of cases. In hæmatocele all the natural hæmostatics were absent. In hæmatoma the conditions favored immediate coagulation, and the hemorrhage was therefore limited. In hæmatocele there was the chance of a convex swelling above the brim of the pelvis, with a more or less marked convex swelling in the cul-de-sac felt from the vagina. In hæmatoma the swelling was distinct and ovoid (while the fixation of the roof of the pelvis was concave) and was groined down to the bony walls of the pelvis like the roof of the crypt of a church.

FIFTH DAY, FRIDAY, AUGUST 8TH.

Electrolysis in the Treatment of Uterine Myomata.—DR. GEORGES APOSTOLI, of Paris, opened the discussion on electrolysis. He referred to the various uses of electricity in gynecology, to the relief of pain and circulatory disturbances (amenorrhœa, dysmenorrhœa, and menorrhagia) effected by its agency, to the arrest in the progress of benign tumors of the uterus which his method of electrolysis afforded, and to the resorption of peri-uterine exudates which could be effected by the use of a galvanic current. He then spoke more particularly of the subject under discussion. His method consisted in the application of galvanic currents, above fifty milliampères, but varying according to the tolerance of the individual patients and the special clinical indications. It was possible that the vaginal application of the galvanic current may give results in certain cases, yet it is inferior to the intra-uterine method. The latter was to be preferred for several reasons: 1, Because by means of it the whole of the current employed is utilized; 2, because we here get the benefit of the antiseptic action of the positive pole, an action which is purely local and is not exerted at the negative pole, or at any point in the interpolar circuit; 3, because the operator is thus enabled to make use of the derivative and cauterant action of the intra-uterine application, treating thus at the same time the endometritis which so often complicates fibromata and peri-uterine phlegmasiæ, ensuring a more rapid, more perfect, and more enduring cure; 4, because in it the pain is less intense, thus permitting of the application of stronger currents, and finally because it ensures a more perfect draining away of the effused blood. The safety of this method was amply proved by the author's personal experience, as he had had only three deaths in over 11,000 operations for various conditions. He contended that the method at least gave relief, while the danger was as nothing compared with the risks of laparotomy, cauterization of the uterine cavity, or the use of the curette. Between July, 1882, and July, 1890, the author had applied electricity 11,499 times to 912 patients, including 531 cases of uterine fibroids, 133 cases of endometritis alone, and 248 of the same affection complicated with pelvic inflammation. Only three deaths had occurred, one being in a case of fibroma, and all were attributable to operative mistakes, and not to any special faults inherent in the method itself.

DR. EPHRAIM CUTTER, of New York, referred to the history of the application of electricity to uterine myomata, dividing the American literature of the subject into two classes, viz., original, antedating the publication of Apostoli's method, and unoriginal, following that period. He had experimented with electrolysis as long ago as March, 1871, observing the effect of the current upon raw meat. In August of the same year he had tried electrolysis on the human subject, but his patient did not continue treatment. He persevered with the use of electricity, however, making improvements and modifications in the necessary apparatus. In 1887 he reported 50 cases treated by electrolysis, with the following results: 11 cured, 3 relieved, 7 unimproved, 4 deaths, and 25 in which the growth of the tumor was arrested. He believed that there was more danger in the operation than was claimed by Apostoli and other ardent advocates of the method, yet it was of use in selected cases and in experienced hands. As to the manner in which the cure is obtained by this method, he believed there was room for some speculation, for we do not yet know all about the currents of electricity that may flow through the human body. It was the speaker's belief that the electrical current so modified the process of nutrition that absorption was brought about after Nature's methods, and not directly as a result of the application of the electricity.

DR. PAUL BROESE, of Berlin, was very sceptical as to the cures supposed to have been obtained by this method. In the first place, no man was infallible in his powers of diagnosis, and it was very possible to make mistakes, especially in the early stages of the growth. But, in addition to this source of error in compiling the statistics, the time that had passed since the alleged cure of many of the reported cases was too short, and it was only after the lapse of a considerable period that we could pronounce definitely upon the reality of the cure.

MR. W. DUNNET SPANTON, of Hanley, reported a number of cases of fibroid tumors of the uterus in which electrolysis had been performed after Apostoli's method. These cases were not uniformly successful, yet, in the greater number of them some good had resulted.

The discussion was continued at some length, no new facts, however, being brought forward, either for or against the procedure. Many of the speakers were inclined to favor the method in suitable cases, although few of them were inclined to agree with Dr. Apostoli as to the almost entire absence of danger. It was the general rule that any therapeutic measure, if it possessed any merit at all, gave the best results at the hands of its originator, and, of course, the more experienced the operator the more would the dangers of the operation be diminished. Others, however, and perhaps the majority of those taking part in the discussion, opposed electrolysis as being ineffective and dangerous, and preferred other measures for the removal of uterine myomata.

Sexual Life of Women after Castration.—DR. F. KEPPLER, of Venice, presented a paper embodying the results of a study he had made in the cases of ovariotomy performed by himself. He had performed castration 46 times, obtaining a cure in 39. These operations were performed for the relief of purulent or gonorrhœal salpingitis, oöphoritis, fibroid tumors of the uterus, etc. The following were his conclusions, derived from a study of the physiological consequences of these operations: 1. When the operation was performed on account of salpingitis or other inflammatory process, uterine hemorrhage never occurred subsequently. 2. The conjugata became gradually shortened, and this was the more marked the younger the individual was when operated upon. 3. The uterus became atrophied, the vagina grew shorter and narrower, its mucous membrane became paler, and the labia majora were somewhat thinned. 4. The breasts grew smaller, acquiring a strong resemblance to the male mammæ. 5. The brown pigmentation of the nipple, areola, perineum, and anus disappeared wholly, as did also pathological pigmentation existing in some of the cases; the hair also turned white. 6. The tendency to embonpoint, which is generally believed to

exist after these operations, was not observed by the author. 7. No changes were observed as regards the growth of the hair or the tone of the voice. 8. The sexual desire remained, and was the more pronounced the earlier in life the operation was performed. 9. The operation offers no impediment to marriage; three of the author's cases had married and had lived happily with their husbands for years. 10. A marriage with a castrated woman is the ideal Malthusian marriage, and the only way the Malthusian idea can be carried out without endangering the health and happiness of the woman. 11. In the cases operated upon in early life for inflammatory conditions, no neuroses were seen to develop, which was not the case when women were operated upon late in life for fibroid tumors of the uterus. 12. A favorable influence upon the hemorrhage was observed after operations for myoma, yet in no case did the menopause at once set in. 13. In cases of operation for uterine fibroma, the patients, even those in full maturity, lost all sexual inclination after the operation.

Remote Effects of Removal of the Uterine Adnexa.—Dr. Bouilly, of Paris, read a long communication on this subject, basing his conclusions upon a study of upward of fifty cases observed during a period of the three years from the beginning of 1887 to the end of 1889. Cases operated upon during the present year were too recent to be used in judging of the remote consequences of the operation. The following are the general conclusions which the author drew from his study of these cases:

1. The remote effects of the removal of the uterine adnexa are excellent, and beyond any question when the indication has been furnished by certain actual lesions of the ovaries and tubes. The most important of these lesions are salpingitis and suppurating oöphoritis, and in the second rank may be classed non-suppurating, painful oöphoritis and peri-ovaritis. In these two classes of affections the results of the operation are perfect, and no other therapeutic measure could well replace the radical treatment.

2. The remote effects appear less favorable when the operation has been done on account of certain forms of catarrhal or interstitial salpingitis complicated with parametritis, in which cases total extirpation is difficult of accomplishment.

3. The treatment of nervous disturbances by ovariotomy is permissible only in cases in which the organs are demonstrated to be actually diseased. The ultimate results are the better the more distinct are the lesions found.

4. The removal of actually diseased adnexa never seems to exercise any injurious effect upon the life or after-life of the woman, who in many cases is restored by means of the operation to health and a happy existence.

Gynecological Hygiene for Girls.—Dr. Debacker, of Paris, read a paper on "Preventive Antisepsis of the Genital Organs in Young Girls," in which he urged the most scrupulous attention to cleanliness of the vagina, and held that girls should very early be instructed in the elements of gynecological hygiene. He said also that antiseptic vaginal injections should be kept up for at least three months after child-birth, even though the latter were perfectly normal and were accomplished without any accident whatever.

Extra-peritoneal Hysteropexy.—Dr. Assaky, of Bucharest, read a paper on the treatment of certain forms of deviation of the uterus by hysteropexy (ventro-fixation of the uterus). The following were the indications for and against the operation which the author formulated, basing his conclusions upon the results obtained in a number of cases reported in greater or less detail in the communication:

1. Extra-peritoneal hysteropexy is contra-indicated in prolapse complicated with a lesion of the adnexa. In such cases laparotomy alone affords the operator a means of knowing the extent of the lesions, and it is also the best means of removing the condition. The measure is contra-indicated in cases of adherent retro-deviations, in which cases also laparotomy offers the best results, as it permits us to free the uterus from the adhesions before suturing it to the abdominal wall.

2. Extra-peritoneal hysteropexy is contra-indicated in non-adherent retro-deviations, because one of the elements necessary for the perfect adaptation of the uterus to the abdominal wall is the relaxation of the uterine ligaments, a condition existing only in cases of prolapse.

3. In simple non-complicated prolapse, extra peritoneal hysteropexy is a simple and rapid operation and one which is wholly devoid of the dangers attributed to it by many whose fears are grounded on lack of experience.

Massage in Retro-deviations of the Uterus.—Dr. Doederlein, of Leipsic, presented a short communication on this subject, in which he related some improvements that he had adopted and which he thought would simplify the method very much and thus serve to render it more popular.

Intra-uterine Tamponade.—Dr. Auvard, of Paris, read a paper on this subject. The procedure advocated by Dührssen in 1887 consists in drawing down the cervix, after delivery has been accomplished, as near the vulva as possible, and then with the aid of forceps or simply with the fingers alone, filling the entire uterine cavity with twenty per cent. iodoform gauze. The tampon is left in place for twenty-four hours, and is then withdrawn by pulling on the end of the gauze left hanging out of the vagina. The latest communication on this subject was made by Dührssen before the Gynecological Congress in Freiburg in 1889. This author had collected the reports of sixty-five cases, among which were six deaths, three from syncope, and one each from septicæmia, eclampsia, and tuberculosis. The last two cases could not be attributed to the method itself, and it is doubtful whether the operation could be justly blamed for the other four deaths. But even admitting these cases there would be but four deaths out of sixty-five, or rather out of sixty-seven (for the speaker had two successful cases of his own to add), thus giving a mortality of only about six per cent. The method is thus shown to be a safe aud effectual one. In the three cases in which death from syncope following hemorrhage occurred, the operation was performed too late, after so much blood had already been lost that the patients were not able to recuperate when the bleeding had been stopped.

The following were Dr. Auvard's conclusions: 1. Intra-uterine tamponage is a hæmostatic measure devoid of any real danger, since, in the cases thus published, the mortality at most was only six per cent., and in all probability even less than that. 2. It is by far the best hæmostatic method which we can employ in post-partum hemorrhage. 3. It deserves at least to be faithfully tried, and will probably be eventually adopted in obstetrical practice.

Dr. Pasquali, of Rome, had employed this method in post-partum hemorrhage, which is of rather frequent occurrence in malarious regions, using the same procedure described by the preceding speaker. He regarded it as far superior to intra-uterine injections of hot water.

Dr Fochier, of Lyons, had used intra-uterine tamponade in two cases of placenta prævia. He had found that it sometimes caused rather strong expulsive pains.

Dr. Dührssen, of Berlin, said that he had collected many more cases since publishing his last statistics. He did not now recall their exact number, but it was in the neighborhood of two hundred. The results obtained in these cases were equally good with those previously published, and confirmed the opinions held as to the utility of the method in controlling post-partum hemorrhage.

Dr. Vulliet, of Geneva, said that he had long before applied tampons to the non-puerperal uterus. In some countries the uterus is, however, very sensitive to the action of iodoform, and in Switzerland especially he had often seen symptoms of pronounced iodism after a tam-

ponade of this kind. He believed that tampons of iodoform gauze should be used with great caution in mountainous countries, where goitre is common, and where the inhabitants are very susceptible to the action of iodine.

Dr. Kochs, of Bonn, said that it was not necessary to use iodoform gauze, for simple sterilized gauze was all-sufficient. This was indeed the method now used by Dr. Dührssen. The speaker showed an apparatus which he had devised for sterilizing the gauze for this purpose. He recalled the fact that some authorities had recommended the artificial inversion of the uterus in cases of post-partum hemorrhage.

Dilatation of the Uterus.—Dr. Vulliet, of Geneva, exhibited some photographs and casts showing to what an extent the uterus could be dilated by the method which he had described in a previous communication. Some cases, indeed, resist such extreme enlargement as he had obtained in the specimens shown, but even in these the greatest possible amount of dilatation can be obtained by the use of the tampon. One great advantage of this method of dilatation is that it is painless, and another, and by no means unimportant one, is that it allows of the maintenance of perfect drainage of the uterine cavity. He had obtained excellent results from the employment of this method in cases of chronic endometritis which had resisted all other therapeutic measures.

Aseptic vs. Antiseptic Laparotomy.—Dr. G. Rein, of Kieff, read a paper on this subject, in which he endeavored to establish the indications and contra-indications for each method. He thought that the aseptic method would grow in favor, yet would never, from the necessity of the case, be able entirely to supersede the antiseptic. The latter would always be necessary in microbic diseases of the peritoneum, in cases in which there were purulent collections in or near the peritoneum, in operations where the surroundings were unfavorable, as often was the case in private practice, when it was necessary for any cause to leave the operation uncompleted, and when there was occasion to fear septicæmia.

Dr. Landau, of Berlin, presented a long communication entitled "Diagnosis and Treatment of Hydro- and Pyo-salpinx."

Sixth Day, Saturday, August 9th.

A Contribution to the Histology of the Normal Endometrium.—Dr. H. J. Boldt, of New York, presented a paper with this title, embodying the results of some studies which he had recently made. He had found that the utricular glands of the mucosa were not only surrounded by a net-work of muscular structure at the base of the glands, but that the muscularis accompanied the glands throughout to the surface of the endometrium. This condition had hitherto not been described by any one, although Barnes speaks of Ercolani mentioning the intermuscular stratum of the uterine mucosa, yet in Ercolani's work it is not mentioned, consequently the speaker believed that Ercolani only recognized and described the muscular fibrillæ traversing the adenoid substance. At the base of the glands the muscular structure is four to six spindles in thickness, whereas it gradually becomes thinner toward the surface, so that at the mouth of the glands only one spindle can be demonstrated. Specimens hardened in chromic acid and mounted in glycerine show this condition better than those mounted in Canada balsam, which makes the protoplasmic substance indistinct. For purposes of demonstration places where the epithelium is detached are also better. The speaker demonstrated the histology with microscopic specimens and drawings. Physiologically their importance is that this muscular structure serves to cause the epithelial products, namely, the mucus, to be exuded into the cavity of the uterus.

Myomotomy.—Dr. Charles Boisleux, of Paris, followed with a paper on this subject. While at the clinic of Dr. Martin, of Berlin, he had had the opportunity of examining ten cases of myoma, in which Dr. Martin had performed supra-vaginal amputation of the uterus, followed by removal of the cervix, either through the vagina or by the abdominal wound. In these ten cases he had made cultures from pieces of the mucous membrane, taken from the fundus and also from that part of the cervix which, in the ordinary methods of operating, would have been left within the peritoneal cavity. In four of these ten cases he found micro-organisms in the cultures made from the mucous membrane taken from the fundus, in one case the germs being so numerous that it was impossible to count them on the gelatine plate. In two cases inoculation experiments with guinea-pigs and mice showed these microbes to be pathogenic. In seven of the ten cases he found micro-organisms in the pieces of mucous membrane removed from that portion of the cervix which in the ordinary supra-yaginal operation would have been left as a pedicle to infect the peritoneal cavity. As a result of these observations the author advised strongly that the most rigorous antiseptic measures be taken in the operation and that the pedicle be thoroughly cauterized in all cases.

Asepsis and Antisepsis.—The author then said a few words on the relative advantages of aseptic and antiseptic operations in the abdominal cavity. By aseptic operations is understood those which are carried out with no other irrigation than that with boiled water, while in antiseptic operations solutions of carbolic acid, corrosive sublimate, etc., are used. The aseptic method may be employed in operations upon simple ovarian cysts, subperitoneal myomata, and extra-uterine pregnancy. Antiseptic measures are called for in all cases of malignant tumor, pyosalpinx, suppurating ovarian cysts, and whenever there is any purulent collection whatever. The amount of pus has nothing whatever to do with the question of infection. The sole point to be considered is that of the nature (the virulence) of the material. The peritoneal cavity may be flooded with benign pus, and no harm would result, whereas a single drop of virulent pus might easily cause the death of the patient. As we are unable as a rule to tell concerning the nature of the pus in the abscess or tumor to be operated upon, the only safe rule in such cases would be to employ the most strict antisepsis.

The Operative Treatment of Myoma of the Uterus.—Dr. Fritsch, of Breslau, read a paper on this subject. There was, he said, no more difficult operation than the removal of a fibroid tumor from certain situations, it was a capital operation and one attended with risk to the life of the patient. Since a fibroid was not a malignant growth it might be asked whether it were justifiable to endanger the life of the woman for the sake of the removal of such a tumor. He thought it was justifiable—even more so in fact than the removal of a carcinoma. In the latter the most that could be promised was the prolongation of life for a time; but in the case of a myoma the result was certain cure if the patient survived the immediate effects of the operation. He then reviewed the different operations which had been employed for the cure of myoma, and first castration. It is true that the myoma would generally shrink after the artificial menopause as well as after the natural one, but it was still there, and might eventually suppurate and lead to septicæmia and the death of the patient. The operation was allowable, however, in two cases, first when the patient was very weak, and secondly when the tumor was small. The second operation, and the one to be preferred in most cases, was enucleation of the tumor. This may possibly be done so as to permit of a subsequent pregnancy, although the author had never seen pregnancy occur in a case which had been so operated upon. The operation which he preferred above all others was, however, the removal of the entire uterus and its adnexa. He then spoke of operations for myomata of the broad ligament, of their difficulties and dangers, and of the means best adapted to avoid the latter or at least to reduce them to a minimum.

Correspondence.

ARE THEY THE BEST LAWS?

To the Editor of the Medical Record.

Sir: It seems rather surprising that you, who with voice and pen have so earnestly advocated the cause of higher medical education wherever and whenever opportunity has presented, should, in an editorial article published in the issue of June 14th, have brought discredit on the Legislature of the State of New York because of its enactments of last year relating to medicine, which, if closely studied, will be found to be among the best laws relating to the practice of medicine which have ever been placed on the statute books of this State. The statement contained in the article of the date above referred to, to the effect that a student may pass the preliminary entrance examination at any period within three years after having commenced the study of medicine, is clearly an error. In 1889 a law was passed making it obligatory, for a person desiring to enter upon the study of medicine in any one of the medical colleges of the State, previous to registration (unless a graduate of some academic college empowered to grant the degree of Bachelor of Arts), to pass the regular and usual Regents' examination. Those who were opposed to the enforcement of this law were instrumental in having a bill introduced in both branches of the Legislature, during the session of 1890, entirely abolishing any previous enactments relating to the requirements of a preliminary education as embodied in the law of 1889. Those of us who had been instrumental in passing the law of 1889 were earnest, not only in framing a law which would tend to advance the standard of medical education in the State, but were likewise desirous of so framing the law that no hardship would come to those about to embark in the study of medicine. It was represented to the advocates of the abolition of entrance examinations that the law of 1889 drove foreign students from our State medical colleges to the schools of Philadelphia and Baltimore, because they were not sufficiently familiar with our language to pass even so simple an examination. Acting on these representations, which were undoubtedly made in good faith by the representatives of the colleges (of New York City more particularly), the law of 1889 was so amended as to allow a student one year's time after entering upon the study of medicine, to meet the requirements of a Regents' examination, such examination being conducted under the direct supervision of an accredited officer of the State Board of Regents, and such examination papers becoming part of the public records of the State of New York. Is not such legislation a step in the direction of higher medical education, as compared with the state of affairs previous to 1889, when the State exacted no test whatever from those about to enter upon the study of medicine, even as to their competency in the three R's? The framer of the law of 1889 is the same gentleman who submitted to the alteration embodied in the present law, and from the congratulatory letters and resolutions which he has received, there is no doubt that the profession generally recognizes the eminent services which have been rendered to the cause of higher medical education by Dr. R. P. Bush, Member of Assembly from Chemung County. The Legislature of 1890 has likewise passed a law which, when its provisions go into effect (1891), will make it impossible for any person, no matter where graduated as M.D., to practise medicine within the borders of the State without having submitted to the same or equivalent tests exacted from those studying and graduating in the State. As to your strictures on the three board Medical Examiners' bill, it need but be stated that every honorable effort was made by the Committee on Legislation of the State Medical Society, through its Chairman, Dr. D. B. St. John Roosa, Dr. Daniel Lewis, and others prominent in the profession, to prejudice the Legislature in favor of a single board, to be appointed by the Regents of the University without any instructions as to the creed or sect in medicine of the appointees; but the other plan (a Board of Examiners for each recognized school of medicine in the State) appeared to be more popular, and we had naught to do but bend to the will of the majority. One other thing, however, we did accomplish, and that was to make the bill proposed by our opponents practically ours as far as the final examinations are concerned, and under the law as amended the same questions will be asked of all students coming up for the right to practise medicine in the State, no matter before which Board they appear, in all the subjects but Materia Medica and Therapeutics; the licentiate standard is to be the same in each Board, the examinations are to be conducted under the direct supervision of the Board of Regents, the results are to be verified by an officer of that same body of educators, and the examination papers are to become part of the records of the State of New York. We did not accomplish what we contemplated, but we *have* established the general principle that the State has the last right to pass upon the qualifications of one who desires to practise medicine within her borders. This is a step in advance, and if the spirit as well as the letter of the law is carried into effect there will be applause instead of regrets for this added legislation, even though we did not carry our point. Other legislation was enacted by the law-makers of 1890 (Care of the Insane, an Act to Prevent Blindness, etc.), but my lines have already strung themselves into unexpected length; yet an apology for this writing will be apparent to those who have read the article in a July number of the London *Lancet*, which, taking the Record article of June 14th as authority, editorially attacks the manner and matter of medical legislation in the United States with a vehemence which is undeserved, because it is unjust. The medical legislation enacted by the Legislature of the State of New York during the session of 1890, if properly carried into effect, while not all that might be desired, is the most radical advance step which has been made in the direction of higher medical education since the codification of the medical laws. Respectfully,

Maurice J. Lewi, M.D.
71 Lancaster Street, Albany, N. Y.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 7 to September 13, 1890.

By direction of the Acting Secretary of War, a board of medical officers, to consist of Colonel Edward P. Vollum, Surgeon; Major George M. Sternberg, Surgeon; Major Albert Hartsuff, Surgeon; Captain William E. Hopkins, Assistant Surgeon, is constituted to meet in New York City on October 15, 1890, or as soon thereafter as practicable, for the examination of candidates for admission into the Medical Corps of the Army. S. O. 213, par. 8, A. G. O., Washington, D. C., September 11, 1890.

Corson, Joseph K., Major and Surgeon. By direction of the Acting Secretary of War, relieved from duty at Fort Sherman, Idaho, and will report in person to the commanding officer, Washington Barracks, District of Columbia, for duty at that station. S. O. 212, par. 4, A. G. O., September 10, 1890.

Heizmann, Charles L., Major and Surgeon. By direction of the Acting Secretary of War, relieved from duty at San Antonio, Tex., and will report in person to the commanding officer at Fort Clark, Tex., for duty at that station, to relieve Captain Edward B. Moseley, Assistant Surgeon. S. O. 211, par. 23, A. G. O., Washington, D. C., September 9, 1890.

MOSELEY, EDWARD B., Captain and Assistant Surgeon. Upon being relieved by Major Heizmann, will report in person to the commanding officer at San Antonio, Tex., for duty at that station. S. O. 211, par. 23, A. G. O., Washington, D. C., September 9, 1890.

CARTER, EDWARD C., Captain and Assistant Surgeon, Granted leave of absence for one month. S. O. 108. par. 2, Headquarters Department of the Columbia, September 6, 1890.

JARVIS, NATHAN S., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War, relieved from duty at Fort Verde, Ariz. Ter., and will report in person to the commanding officer at San Carlos, Ariz. Ter., for duty at that station. S. O. 208, par. 2, A. G. O., Washington, D. C., September 5, 1890.

WOOD, LEONARD, First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about October 20, 1890, with permission to apply for an extension of one month. S. O. 74, par. 1, Department of California, San Francisco, Cal., August, 30, 1890.

WOOCHULL, A. A., Major and Surgeon. On surgeon's certificate of disability, is granted leave of absence for one month, with permission to go beyond the limits of the department. S. O. 122, par. 1, Department of the Missouri, September 5, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending September 13, 1890.

WOOLVERTON, THEORON, Medical Director. Ordered to the Philadelphia, September 15th.

PENROSE, THOMAS N., Medical Inspector. Detached from the Richmond.

GARDNER, J. E., Passed Assistant Surgeon. Detached from the Albatross.

DRAKE, N. H., Passed Assistant Surgeon. Detached from the McArthur and ordered to the Albatross.

BERRYHILL, T. A., Passed Assistant Surgeon. Detached from the hospital, Mare Island, Cal., and ordered to the McArthur.

HEFFINGER, A. C., Passed Assistant Surgeon. Ordered before Retiring Board, October 1, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 13, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	34	17
Scarlet fever	37	3
Cerebro-spinal meningitis	1	2
Measles	46	7
Diphtheria	37	13
Small-pox	0	0
Varicella	2	0
Pertussis	0	0

Doctors not Wanted in Southern California.—Dr. William H. Dukeman, of Los Angeles, Cal., writes: "The city of Los Angeles, Cal., with about sixty thousand resident population, comes to the front with relatively more than three times as many physicians as any city in the United States. And still they come! Los Angeles has a climate, too, where people generally do not need the services of a doctor. The climate is known to be conducive to good health. There is indeed very little sickness of any kind here. Children thrive scarcely without a pain. No summer diarrhœa, no dysentery, no cholera infantum, no fevers, no malaria appear on the list of sickness. The doctor is almost unknown to them. His office is his castle and the climate kindly demands no one to get sick and enter not into his office, for verily, bad tasting medicine and sunshine are antagonistic. Los Angeles is a prosperous city. The doctor in the East reads of this and without investigating as to the number of doctors here or as to his chances of getting any practice he too hastily packs his grip for the land of prosperity and a paradise on earth. When he arrives here he is at once captivated. As he walks along our business streets the glistening letters *Doctor*, *Doctor*, *Doctor*, shining in gold and silver on almost every second-story window of the business blocks makes him nervous. He at once concludes that his colleagues are getting wealthy and at first impression at once hastily looks around to secure himself a place. His name soon shines with the others. But alas! who ever hears of the doctor. He may issue advertising sheets to make himself known. He may tell of his lucrative practice he left back East. He may tell of the remarkable cures he effected and of the remarkable surgical operation he performed. But alas, there is nothing here for him to do. He awaits anxiously day after day in his office for a patient. They are like the letter that never came. It is only a matter of a short time when he gets disheartened and sick and is the patient of his sympathizing friend doctor in the same row. After a few consultations with each other as to the prognosis, two are complaining of the same trouble and soon not only one doctor is missing but two have disappeared. Where have they gone? They are never heard of again, yet they continue to come to meet with the same fate, and disappear in the same mysterious manner. Doctor, beware! Southern California is a remarkably healthful climate but indeed it is very unhealthful for doctors. They soon die."

Hints in the Business of Practice.—The successful practitioner needs no hints. But he who is ambitious to "get there," is often in need of counsel. In the *Cincinnati Lancet Clinic*, August 2, 1890, we find the following, which may mean "good business," but is somewhat remote from strictly "good morals:" A patient should always be kept waiting a few moments; it calms agitation and leads them to think you have another client in your private office. Always open and close the inside door of your private office, so as to leave the impression that you have just dismissed a patient from your inner sanctum. It is best also to rattle a few silver pieces of large size. This reminds the outside client that fees in cash are in order. In consultation the great secret of success is to know how to listen; a patient always desires to unbosom himself to a medical confessor. Show me a good listener, and I will show you a man with a large practice. Be sympathetic and patient, giving the client's tongue full swing. Some will talk much, some but little. Do not interrupt a patient's conversation, as it will lead to prolixity; if he does not talk much make him repeat the most interesting details of his case. This produces a grand moral effect, and as good thinkers are often poor talkers, you will often be mistaken for a savant and highly esteemed by the patient. Be careful that no detail of the consultation shall turn to your disadvantage. One of the most vigorous precepts of charity in medicine make it imperious to console and reassure a patient, leading him to always hope for a cure, even though you know the malady to be incurable. Never make a slight affection appear to be slighter than it is. The doctor in slight illness should give positive assurance that he can cure the malady—in time. As a general rule a patient loves to persuade himself that he has been in great danger, and this compensates for the medical fees he pays. It is bad policy not to make a patient realize that he owes you something more than money can repay. Permit him to feel under personal obligations. If he

thinks you saved him from death when he was really in no danger, do not tell him to the contrary. Avoid dangerous exclamations such as fall from the mouths of honest young practitioners in their first innocent verdancy, as for instance: "Ah! it's nothing. You are only a little indisposed. A little dieting will remedy all. Don't take medicine when you do not need it." Physicians who are honest, or rather impolitic enough to tell the truth are not money makers, nor are they esteemed by their clients. Most people who visit a doctor desire to be told that they are ill. To tell them the contrary is to make them out asses. Nine people out of ten who visit a doctor's office are but slightly indisposed, but tell them the truth and they will seek some other physician for consolation. The men with the largest practice are the patient listeners and greatest liars. These two things are prerequisites for success. A doctor may be a talkative man and converse with his clients, but the brainless, silent, and austere physician will beat the most brilliant conversationalist in the pecuniary emoluments of the profession. Make it a point never to allow a patient to leave your office without a written prescription. It is also good policy to give your client written directions as to diet, etc. Don't be afraid to waste prescription paper on any patient. Fill in boldly the *recto* and the *verso*, and the client feels that he is getting his money's worth. The young doctor who says to the patient, "Never mind a prescription; go to the pharmacist and get a dose of salts," is an ass who will learn better after a while.

Sauce for the Goose is not Sauce for the Gander.—There was once a rich woman who discovered that she was about to become a mother. She did not wish to become a mother, for to do so would put her to some inconvenience and for a short time interfere with her pleasures. So she sent for her physician, who was very noted and respectable. As a result of preventing her from becoming a mother she died. The doctor certified that she died from peritonitis. Her remains were prepared for burial by a fashionable funeral director. Her funeral sermon was preached by a fashionable clergyman. The fashionable doctor attended the funeral. Everybody mourned the death of the estimable Christian woman. Everybody was satisfied. "Because," said they, "whatever a rich woman, a noted doctor, a fashionable undertaker, and a swell clergyman do is all right." There was once a poor cigarette girl, named Annie Goodwin, who discovered that she was about to become a mother. She did not wish to become a mother, for to do so would prevent her from ever making a living, except by a life of shame. So she sent for a doctor named McGonigal. As a result of preventing her from becoming a mother she died. The doctor certified that she died of peritonitis. Her remains were prepared for burial by an undertaker named Merritt. She had no funeral sermon, but was buried secretly. The police heard of it and arrested the doctor, the undertaker, the woman in whose house the cigarette girl died, a little boy, a girl friend of the dead woman, and the girl's lover. And everybody said it was horrible that so many persons should have conspired to murder the cigarette girl. They even wanted to lynch the doctor. "Because," said they, "unless such things are done by a rich woman, a noted doctor, a fashionable funeral director, and a swell clergymen they are frightful crimes."—*Twentieth Century.*

A Plethora of Medical Journals.—The *American Lancet* says, editorially, that seven new medical journals have lately been started in the interests of as many medical colleges. Other colleges, in self-protection, must follow, so that we are entering upon an epidemic of new medical journals of large proportions. It would seem as if we would soon have a medical journal for every medical college, and every hospital and dispensary. If to these we add the publications of the several medical societies, a bewildering mass of medical literature will lie before us in quantity appalling to the most diligent student of medical science. The reasons for this new departure are not far to seek. One large institution, ambitious to advance more solidly in the direction of making its influence felt in the profession, started a medical journal From its own ranks it was able to fill this with valuable contributions. Its effects were noticed by other institutions, and, seeming desirable, they also started similar journals. Thus the stream started and grows as it rolls onward. That these journals are for other purposes than medical journalism is apparent from the fact that they are sent to the profession either free or for nominal sums. This can be done, as the object is not to make the journals pay in and by themselves, but rather to promote the interests of individual institutions and those connected with them. What the outcome of this move shall be no one can certainly tell. Clearly, however, it will continue so long as the separate institutions find that it pays. But it would seem as if the pay would diminish in proportion as the practice became more and more general. It would seem also that in many instances it would be difficult to secure the needful material of suitable quality for any great length of time. In all cases it will, after a time, become a tiresome labor. Thus, for reasons of a personal nature, most colleges will drop these publications, and utilize those already established for the publication of their work. They will ascertain that even their personal ambitions are attained more easily without a college organ. They will find that the labor of teaching satisfactorily, added to the cares of a large practice, consumes so much energy that little is left for the cares of medical journalism. Thus the cycle will be complete, and medical journalism will return more completely to those devoting most, if not all, their attention to it.

The Mortality of Widowers from Phthisis.—MM. Destrée and Gallmaerts have come to the conclusion in comparing the mortality from phthisis of bachelors, married men, and widowers, that the last are very much more subject to this disease than either of the other classes. The same statement holds good for all ages, and it is, they say, also true that widows are more liable than single women to die of phthisis. The authors do not think this is to be explained, except by direct contagion of wife to husband or husband to wife. They cannot think irregularities and excesses indulged in by widowers can be answerable for it, for advanced age does not seem to make any difference. They would ascribe it to infection occurring during married life, the disease claiming its second victim some time after the death of the first.—*The Lancet*, August 2, 1890.

How the Patent-Medicine Business is Worked.—"These firms of manufacturers of proprietary medicines, nine out of ten, live solely by the newspapers, and sometimes are admirably managed. I know some establishments in which there is a regular staff employed; I know something about them, because they try to bribe me to certify to the value of their concoctions. As I say, there is a regular staff. There is the literary man, who writes the letters, giving marvellous accounts of marvellous cures; there is the artist who shows the patient before and after taking twenty-two bottles of the medicine; there is the poet, who composes poems upon the subject; there is the liar, who swears to what he knows isn't true, and the forger, who produces testimonials from his own imagination. Without exaggeration, I should say that nine out of ten of these proprietary medicines are frauds, pure and simple; the real business is advertising for dupes. The medical part of it is but a side issue. I am pretty sure, if I were to pound up brickbats, and spend $100,000 in offering it at a dollar an ounce, as a sure cure for some disease which cannot be cured, I should get back at least $110,000, thus giving me $10,000 for my trouble. Nine-tenths of the medicines sent out in this fashion have no more curative properties than brickbat dust."—CHARLES F. CHANDLER, M.D.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 13. Whole No. 1038. | NEW YORK, SEPTEMBER 27, 1890. | $5.00 Per Annum. Single Copies, 10c.

Original Articles.

WHAT IS ORTHOPEDIC SURGERY?[1]

BY NEWTON M. SHAFFER, M.D.,

ATTENDING SURGEON IN CHARGE OF THE NEW YORK ORTHOPEDIC DISPENSARY AND HOSPITAL, CONSULTING ORTHOPEDIC SURGEON TO ST. LUKE'S HOSPITAL, NEW YORK.

THE recent action of the Orthopedic Section of the New York Academy of Medicine in appointing a committee to secure for orthopedic surgery an official recognition by the Tenth International Medical Congress has been successful. Orthopedic surgery is placed, by this act, upon the same plane with the other special branches of medicine and surgery, and an important duty is imposed upon those who will assemble in Berlin to participate in the proceedings of this newly created Section. It would seem, from the many replies which have been received by the committee in response to the circular letter which was sent to those interested in orthopedic surgery, that there exists a very general desire to aid this important department of surgery. Over one hundred replies have been received from English, Continental, and American surgeons. With a few exceptions the replies have been favorable to the views and wishes of the committee.

Of those who have expressed doubts as to the advisability of creating a special Section of Orthopedic Surgery at the Congress, some have plainly said that this special Section was not necessary; others have stated that in certain localities the treatment of deformities was influenced by a class of men who were not regularly educated surgeons; while others, again, see difficulty in drawing the line between general and orthopedic surgery.

These facts raise some important questions, which, it seems to the writer, should be discussed by the members of the Orthopedic Section at its first meeting in Berlin; and the remarks that I have the honor to present have been suggested by the evident differences of opinion that exist regarding the status of orthopedic surgery. And the writer desires to state that the opinions here expressed are his personal views only, and that the committee appointed by the Orthopedic Section of the New York Academy of Medicine (of which the writer has the honor to be a member) is in no way responsible for them.

It seems unnecessary on this occasion to consider orthopedic surgery from a, strictly speaking, historical stand-point. A few historical facts may be mentioned, however, which bear upon the rise and progress of the treatment of deformities.

From the time of Andry the word "orthopedic" has been identified with the treatment of deformities, and an "orthopedist" has been one who treated deformity. But it was not until Stromeyer, in 1830, demonstrated the feasibility and the value of subcutaneous tenotomy and myotomy that "orthopedics" obtained its first firm foothold in the profession. Both before and after Stromeyer's time, however, mechanico-therapy was the fundamental part of the treatment of deformities. The introduction of subcutaneous tenotomy and of subcutaneous myotomy supplemented the treatment of deformity by mechanical means. Subcutaneous surgery did not dispense with the mechanical element of treatment, it rather emphasized its value and necessity. And it is fitting that we should note that the first great advance in orthopedic surgery occurred in Germany, under the influence of Stromeyer's teachings, and that his methods soon became recognized and practised in all parts of the world.

The status of orthopedic surgery in 1844—about fourteen years after Stromeyer's methods were introduced—is very clearly shown by the essay[1] of Dr. Henry J. Bigelow upon orthopedic surgery. In this work Dr. Bigelow quotes largely from Stromeyer, Guérin, Bonnet, Velpeau, Phillips, Duval, Dieffenbach, and Little. The subjects treated by Bigelow, in addition to club-foot, lateral curvature of the spine, torticollis, etc., include both stammering and strabismus. The operation for the last-named condition has long since been recognized as belonging to the special department of ophthalmology, while the former was long ago abandoned. It seems clear, however, from Bigelow's essay, that, at the date he wrote, orthopedic surgery, so far as operative treatment is concerned, was synonymous with subcutaneous tenotomy and subcutaneous myotomy, and that any condition requiring either of these operations was to be classed under orthopedic surgery. A few years later, or about 1852, an American surgeon, Dr. Henry G. Davis, published his essay, in which he advised the use of elastic traction by means of a portative apparatus in the treatment of hip-joint disease. He also demonstrated the value of traction apparatus for overcoming the deformities occasioned by chronic articular lesions. The treatment of Pott's disease by means of the antero-posterior spinal apparatus was also demonstrated by Dr. Davis and Dr. C. F. Taylor, and the subject of the mechanical treatment of chronic joint and spinal disease received a marked degree of attention from the surgeons of the United States especially.

In this field Dr. Lewis A. Sayre and Dr. Charles Fayette Taylor became very conspicuous. They amplified Dr. Davis's apparatus, and devised many forms of apparatus for the treatment of chronic and progressive deformities, and under their leadership the treatment of chronic joint and spinal disease became a distinctive feature of the American school of orthopedic surgery, and another era in orthopedics, second only to that of Stromeyer, was inaugurated.

Up to about 1870, or thereabouts, it would therefore appear that two important factors had aided in placing orthopedic surgery upon a satisfactory basis. First, the introduction of subcutaneous surgery by a German surgeon, and, second, the introduction of the portative traction method of treatment of chronic joint disease by an American surgeon. Of the former it may be said that subcutaneous surgery is rarely used in the treatment of chronic deformity without after-mechanical treatment, which after-mechanical treatment is oftentimes more important and essential than the cutting operation, and special skill and training are often required to apply it successfully. Of the latter we may safely say that it is not until the mechanical treatment has proved inefficient that cutting measures are, as a rule, thought of, and that when cutting measures are deemed necessary the after-treatment calls for little else than simply surgical dressings which do not demand a special orthopedic training to apply. The introduction of the traction splint in the treatment of chronic joint disease, as well as the introduction of the antero-posterior splint for Pott's disease,

[1] Read before the Orthopedic Section of the Tenth International Congress, Berlin, August 4, 1890.

[1] Manual of Orthopedic Surgery: the Boylston Prize Essay for 1844. Published in 1845 in Boston.

enlarged the field of practical orthopedics very much. "Preventive" surgery, the highest aim of surgery, became an important factor in the treatment of this class of chronic deformities. By the judicious use of traction apparatus, portative or otherwise, deformity can be prevented, and in many cases the disease producing deformity can be arrested. And even after the deformity of chronic articular disease has become pronounced, it can, in many cases, be overcome or greatly modified without any cutting operation. Indeed, the tendency of orthopedic surgery has always been toward conservatism. Its principal victories have been won in this field, and it would seem to be a great error to lose sight, in any way, of the principal factor which has contributed so largely to its present position.

Up to this point, or about 1870, it will be seen that orthopedic surgery had not invaded the field of general surgery. Availing itself of all that contributed to the relief of deformity from its conservative stand-point, it found many difficult problems which it did its best to master. It took hold of, and cared for, a much neglected class of humanity—a class that had long been neglected by the profession at large. Even at this day the general surgeon, as a rule, cares but little for orthopedic work. He is fully occupied in a large field which is every day becoming more exacting, while the orthopedic surgeon is devoting himself to a department which has none of the brilliancy of operative surgery, which requires much patient attention to mechanical detail, which demands special facilities for altering and modifying apparatus, and a special training and education which very few surgeons have received.

It is not many years ago, however, that general surgery began to invade the domain of orthopedic surgery. This is especially true since the Lister method has become so universally accepted. The knife, the saw, the chisel, and the osteoclast have become potent factors in the reduction of obstinate osseous deformities. Knock-knee, bow legs, old and obstinate cases of club-foot, and other conditions are relieved by the direct surgical method, without special after-treatment, except simple surgical dressings. This marks another era in the treatment of deformities, and is a legitimate advance in *general surgery*. And it was about this time, also, that joint resections began to attract the marked attention of surgeons of the United States.

To some orthopedic surgeons these innovations of general surgery have proved a stumbling-block. They diverted the attention from the hard and rugged paths of orthopedic work, *per se*, to the brilliant work of the general surgeon. I know myself that the allurements of the operating-table are very great, for about this time I had my own attack of "surgical fever," which, I am happy to say, proved a self limiting fever of comparatively short duration. But it raised the questions then, as it raises them now, Where shall the line be drawn? What is orthopedic surgery? Shall orthopedic surgeons be general surgeons as well, and shall general surgeons be orthopedists? If these questions are answered in the affirmative, there is no room for a special Orthopedic Section in the Berlin Congress.

Reference has already been made to Bigelow's work, published in 1845. If we compare it with Sayre's work on "Orthopedic Surgery and Diseases of the Joints," published in 1876, or with Bradford and Lovett's work on "Orthopedic Surgery," published in 1890, we will see that the tendency of modern orthopedic surgery is to invade the field of general surgery. Bigelow's work teaches subcutaneous tenotomy and myotomy, plus special mechanical treatment, and nothing more. It does not mention diseases of the joints or Pott's disease of the spine. It deals with the subject of the mechanical treatment of chronic deformity in a meagre way, a subject which is full of brilliant promise in the future. It suggests a field which has never been fully developed, and which rests with orthopedic surgery to develop, viz., complete and scientific methods of mechanical treatment, which when fully developed, will represent as much of real value to the human race as general surgery itself. It already represents a great deal—especially in the mechanical treatment of chronic joint and spinal disease—for since orthopedic surgeons have done so much to render plain the early diagnosis of joint and spinal diseases, mechanico-therapy can prevent the occurrence of deformity, and can frequently arrest the disease in its first or non-deforming stage. And still more, when the articular disease has advanced, and pain is present, or when deformity is progressive and abscess is about to form, or has already formed, mechanico-therapy, properly understood and applied, can hold out to the sufferer more than the operative or general surgeon. In the field of chronic articular disease alone there is enough to do, and enough for the orthopedic surgeon to learn, without invading at all the field of general or operative work.

Let us see the position Sayre takes in 1876. His work, already mentioned, covers, generally speaking, the conditions treated by Bigelow in 1844, and adds to the list "Diseases of the Joints." This is to be expected, for the author's greatest reputation is based upon his experience in the treatment of joint and spinal diseases. He is especially strong in his description of joint and spinal conditions, ample attention being given to diagnosis and prognosis. He devotes much space to excision of the joints. The great strength of his work, however, lies in its orthopedic part, or in the description of deformities and their mechanical treatment. The work is one of the pioneers in an important field, Dr. Louis Bauer having covered somewhat the same ground a few years before. The part of the work that is of the least value *per se* is the part which treats of joint excisions, for the reason that the subject is well considered and amply discussed in contemporary surgical literature; while the part which dwells upon orthopedic surgery is novel, interesting, and in its way classical.

Bradford and Lovett, in 1890, group all deformities under one head of "Orthopedic Surgery," and reject the qualifying title of "Diseases of the Joints," adopted by Sayre. In addition to the conditions treated by Bigelow and Sayre, we find these authors include several new titles. Among them are the "Cerebral Paralysis of Children," "Pseudo-hypertrophic Paralysis," "Dupuytren's Contraction," "Webbed Fingers," and "Functional Affection of the Joints." They extend the surgical aspect of the treatment of deformities and give a large portion of their work to resection of the joints, amputation at the hip-joint, laminectomy, osteotomy, osteoclasis, etc. It seems unnecessary to call attention to the excellent and thorough way in which the (strictly speaking) orthopedic part of the work is executed. It is rather the object of the writer to call attention to the unnecessary invasion of the field of general surgery, in a special treatise on orthopedic surgery, when the purely surgical aspect of the conditions named is amply covered in the current surgical literature of the day.

None of the writers I have referred to define orthopedic surgery in their works, and the definitions given in the various dictionaries are familiar to us all. I have found none that seems sufficiently definite, or that covers the ground from the stand-point of modern orthopedic surgery. Under these circumstances I found myself, several years ago, called upon to define orthopedic surgery, by the class at the University Medical College, at a time when I was connected with the college, and I then ventured upon the following definition:[1] "Orthopedic surgery is that department of general surgery which includes the mechanical and operative treatment of chronic and progressive deformities for the proper treatment of which specially devised apparatus is necessary." I would modify this definition to-day so that it would read as follows: "Orthopedic surgery is that department of surgery which includes the prevention, the mechanical treatment, and

[1] The Present Status of Orthopedic Surgery, New York Medical Journal, January 26, 1884.

the operative treatment of chronic or progressive deformities for the proper treatment of which special forms of apparatus or special mechanical dressings are necessary."

No one doubts, myself least of all, that the orthopedic surgeon should be, from the stand-point of education, a surgeon in every sense of the word; that he should be a well-educated medical man, with ample clinical experience, before he enters the field of Specialism. In short, it seems to the writer that the orthopedic surgeon should take a step in advance of the general surgeon, and that his education should include all that is necessary to make a general surgeon before his study of mechanico-therapy is commenced. As one thus equipped enters the field of orthopedic surgery he will, if he is wise enough to resist the temptation to become an operative surgeon, find many valuable mines to be explored, and much to be learned that is as yet untouched by any writer. And he will find ample work without invading the field of the general surgeon, just as he will find in all parts of the civilized world very many surgeons who are amply qualified to perform all the operations of surgery, and but very few who can intelligently devise and apply apparatus in the various and varying conditions of chronic deformity.

The needs of orthopedic surgery are clearly shown when we appreciate how thoroughly general surgery is taught in all the universities and colleges, while, on the other hand, mechanico-therapy—a very wide and important field—is too apt to be totally ignored. The result is that the work that should fall into the hands of the educated surgeon is relegated to the commercial instrument-maker. We have only to look at the barber-pole of to-day to recall the position of surgery in former years, and it is not impossible that in a few years the opprobrium that attaches to mechanico-therapy will become a thing of the past, and that we may have a class of surgeons interested in orthopedic work who will be orthopedic surgeons in the strictest sense of the word.

From the stand-point here taken, and as a matter of experience, it seems to the writer that the invasion of the field of general surgery by the modern orthopedist is unnecessary and uncalled for. It further seems to the writer that it can only bring discredit upon a new and important field of work—what is even further removed from general surgery than ophthalmology or laryngology. This invasion will direct the attention of the profession to the weak point in the armament of those who combine general surgery with orthopedic work; and it will, if persisted in, in the future break down the lines between it and general surgery. The remark of a prominent general surgeon to the writer, after reading the latest work on orthopedic surgery, is not, perhaps, so much out of place. He said, "The next work on orthopedic surgery will likely tell us all about fractures and dislocations." The fact that the plan here proposed will necessarily limit the operative work of the orthopedist does not lessen either the importance or the honor of the work that lies before him. Operative surgery has its own place, and in orthopedic work that place should be second; and operative surgery should be used by orthopedists only as it supplements mechanico therapy. Orthopedic surgery is as yet in its infancy, and needs men with strong heads and strong hearts, men who are willing to work and study and wait, and to those who do this there will be, I am sure, an ample reward.

And looking at the subject from the stand-point of our meeting here in Berlin, we may learn another lesson. The only possible excuse for the foundation of a special Section of Orthopedic Surgery at this Congress is the rapid rise and development of mechanico-therapy, especially in the United States. There would be no true orthopedic surgery to-day if mechanico-therapeutics had not been studied long and patiently by a comparatively small body of intelligent surgeons. And if the committee who addressed their petition to the Congress, asking recognition, had relied upon the record of orthopedic surgery in the field of joint resections, amputation at the hip-joint, laminectomy, osteotomy, etc., I fancy that the committee would have been referred, and rightfully so, to the Section of General Surgery.

In closing my remarks I feel that I ought to state that the conclusions reached in this paper are based upon an experience of nearly thirty years in orthopedic work.

In 1873 I found myself in charge of the Orthopedic Service of St. Luke's Hospital, with no restrictions as to the operative work of my own department. I soon found that the purely surgical aspect of the work was very attractive, and that my interest in the patients under my care was gauged by their present or prospective operative value, and that the conservative or orthopedic side of the work was becoming less interesting. After mature reflection it became apparent that the operative field was well represented in the eminent surgical staff of the hospital, and that it was clearly my duty to develop and establish the principles of orthopedic surgery. After reaching this conclusion I voluntarily turned over to my colleagues all the purely operative work which required no orthopedic treatment after operation, and from that time up to the day of my resignation I operated only on those cases which would necessarily remain under my care after operation. Soon after my appointment as surgeon in charge of the New York Orthopedic Dispensary and Hospital, an attempt was made to combine a general surgical staff with the orthopedic work. At first it seemed to be just what was needed, and while questions of jurisdiction were sometimes raised there was no conflict between the surgical and orthopedic departments. The real difficulty appeared later, when it was found that the junior medical officers seemed to lose their interest in the orthopedic work, while they were very active in the purely surgical work. The hospital was gradually becoming a surgical hospital rather than an orthopedic one. It became apparent to the trustees after a while that the institution was drifting away from its avowed object. Subsequently the surgical staff retired, and since that time the institution has been, strictly speaking, an orthopedic one.

As the medical officer in charge of the New York Orthopedic Dispensary and Hospital, and having control of its surgical policy, I have for several years—and since the retirement of the active surgical staff—operated only on those patients who required special orthopedic care after operation. All other cases requiring surgical operation have been referred to some general hospital; and I have pursued the same course in my private practice—that is, I have referred all patients requiring surgical operation, who have not demanded special orthopedic care after operation, to a general surgeon. And this, I believe, is the proper position for the orthopedic surgeon to take. During my service at St. Luke's Hospital it was made apparent, very soon after my appointment, that the resident house staff took little or no interest in the orthopedic ward. Their interests, as young and recently graduated medical men, were in general surgery and general medicine. Aside from this, though they were all picked men, very few of them seemed to possess the mechanical ability which is an essential element of success in orthopedic work. After a few years' effort to keep the house staff interested—an effort which failed—I was obliged to ask the hospital authorities for a special assistant.

At the New York Orthopedic Dispensary and Hospital it has sometimes been difficult to secure the attention of the junior staff during a period long enough to fit them for future orthopedic work. At the end of six months or a year they may regard themselves as fully equipped orthopedic surgeons. On the other hand, we have had able men as assistants, whose college and competitive examination records were high, but whose mechanical instincts were lacking. These men were clearly out of place in orthopedic work. My experience proves that it requires an exceptional man to succeed in orthopedic practice. If he possesses mechanical tastes and ability, and devotes

himself to orthopedic work for a sufficient period, he will almost surely succeed in reaching a high place. But if he attempts at the same time to do the work that would naturally fall to the general surgeon, he will, sooner or later, become the latter in effect, if not in name. And if he does not possess in a high degree an educated appreciation of the various and complex mechanical problems which will constantly confront him in daily practice, he will very likely turn to operative measures when there may be no need for such a step.

Nor can anyone expect to equip himself as an orthopedic surgeon in a short time. After graduation, and a term of service as an *interne* in a hospital, a course of study covering at least five years (including a wide clinical experience in dispensary and hospital work) should be demanded of those who expect to become orthopedic surgeons; orthopedic surgery lies wholly within the domain of "chronic" surgery. The junior medical officers in large general hospitals see but little of this class of surgery. On the other hand, they acquire during their hospital residence a wide experience in "acute" surgery. No one can acquire a safe clinical experience without a prolonged study of many cases, and in the chronic joint department of orthopedic surgery one may wait several years before seeing the end of one's first case.

A great deal will be expected of the orthopedic surgery of the future, and it seems to the writer that the sooner the followers of orthopedic surgery realize that it has enough in itself to sustain its well-earned reputation without encroaching upon other grounds, the better it will be for orthopedy. I feel a natural embarrassment in thus presenting my views, but I also feel that it is a duty which the present occasion demands; and if my remarks are regarded as embodying the conclusions of one who desires to see orthopedic surgery occupy the high place it deserves, I shall be wholly satisfied, and if they aid at all in solving the question which heads this paper, I shall be content.

THREE CASES OF CÆSAREAN SECTION, ONE OF WHICH NECESSITATED PORRO'S OPERATION.

By H. F. BIGGAR, M.D.,

CLEVELAND, O.

Case I.—Mrs. S——, aged twenty-eight, German, in height four feet, weighed fifty-five pounds. Perfect physically except a rachitic pelvis. Married five years, with four impregnations. In each of the three former births the physician destroyed the child to save the mother. Earnestly desiring a living child, at the expiration of eight months of gestation she came to the Huron Street Hospital. At full period labor began at 8 A.M., December 16, 1886. At 9 P.M. of same day, when os had dilated to the size of a silver dollar, and before the escape of water, the child was removed by laparotomy, after the method of Sänger. Time of operation fifteen minutes. Immediately on removing the child and placenta a hypodermic injection of thirty minims of ergot, normal fluid, was given. Mother and child saved. Was assisted by Drs. J. C. and J. Kent Sanders, Myra K. Merrick, A. K. Smith, J. C. Norris, and Lena E. Hitchcock.

Case II.—Mrs. K——, aged forty-three, home Akron, O., German parentage, mother of two living children and one still-born at seven months. After seventy-two hours of labor, on August 6, 1888, her physician telegraphed, "Come prepared for a Cæsarean section." Found pulse weak and rapid, and patient very exhausted. After anæsthetizing, corroborated the diagnosis of the attending physician, viz., that of a fibroma of neck and body of uterus which rendered it impossible to reach the os. Delivered the child and placenta by Cæsarean section, after which the uterus with tumor was removed after the manner of Porro. The weight of child was twelve pounds, and of tumor ten pounds. The child had been dead several hours previous to operation. The patient improved up to the tenth day, when an oozing of bright blood from the stump, which was external and held by Keith's clamp, was noticed by the patient. The doctor was summoned, but before he could reach the patient the hemorrhage had been so great that the patient did not rally. If in the hospital the hemorrhage probably could have been controlled and the patient saved. Was assisted by Drs. O. D. Childs, W. Murdock, L. S. Ebright, and J. W. Rockwell.

Case III.—Mrs. W——, aged thirty-four, home Madison, O.; mother of two living children. Previous births were normal. Labor began June 1, 1889, under the care of a midwife. After five days of unsuccessful labor physicians were called, who found transverse presentation with a rupture of the womb in the lower anterior part. Upon my arrival the patient was in a state of collapse, with marked septicæmic symptoms. Though the recovery from low down rupture is the one most likely to occur without an operation, yet an immediate delivery seemed to demand a Cæsarean operation, as every effort to deliver the child had been unsuccessful, which was quickly done. The incision of the womb extended to and through the rupture. A partially decomposed child at full term was removed. The patient rallied well for twenty-four hours, but died from septic poisoning seventy-four hours after operation. It is not known whether the midwife gave ergot, and if so the dose. Was assisted by Drs. A. L. Gardner, of Painesville, O.; J. V. Winans, of Madison, O., and A. B. Allyn, of Thompson, O., In these three cases thorough antiseptic surgery was followed. Case III. was at a farmer's house, and operation at 2 A.M. In this case the child was large, weighing twelve pounds; male. The abnormal position of fœtus may have caused the rupture of womb. It would be more satisfactory did we know whether ergot had been given. A skilled physician at the onset of labor would probably have delivered the child without great difficulty. Lerschmann says a ruptured uterus occurs in but 1 to 1,331 cases, and is one of the most appalling accidents in midwifery.

Dr. Charles A. L. Reed says: "All cases of complete rupture should be submitted to abdominal section as soon as the condition of the patient, with reference to shock, will admit, and for the following purposes: 1, To explore the abdomen; 2, to remove all foreign bodies; 3, to cleanse the peritoneum; 4, to close the rent if the labor should have been short and the uterus not seriously damaged; 5, to remove the uterus if the labor shall have been long and that organ seriously damaged."

A CASE OF INSUFFICIENCY OF THE INTERNAL RECTI RELIEVED BY TENOTOMY OF BOTH EXTERNAL RECTI.

By S. G. DABNEY, M.D.,

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As ocular insufficiencies occupy just now a considerable degree of attention in the profession the following case is perhaps worthy of record.

A. B——, aged thirteen, consulted me on October 17, 1889. His mother gave this history: Many of the family, herself included, were subject to severe and intractable headache. The little boy had been under the care of oculists almost constantly for four years. Each oculist—and he had been treated by three—had ordered a different glass. None of the glasses had given much relief.

The chief symptom in the case was a sensation of burning in the eyes and pain both in and over them on any attempt at reading, writing, or other occupation requiring vision at a short distance. The patient complained, too, that he frequently saw double under such circumstances. He could distinguish two kinds of headache, one induced by disorder of the stomach and the other by the strain on his eyes.

There was manifest hypermetropia of .5 D. The total, revealed by the use of the sulphate of atropia, was 1 D.

The glasses which had been prescribed were convex sphericals, varying between these limits. Vision was $\frac{20}{20}$.

On converging to a point 15 to 12 inches distant, one eye, usually the right, could be seen to turn outward and the patient would complain of diplopia. More minute examination of the muscular condition was made with Steven's phorometer and gave the following results: At a distance of 18 feet—insufficiency of internal recti, 6°; power of adduction, 2°; power of abduction, 12° (the same or nearly the same in both eyes). At a distance of 15 inches — insufficiency of interni, 15°. There was no hyperphoria.

On October 30th tenotomy of the external rectus of the right eye was performed, and the insufficiency at a distance of 18 feet exactly corrected. There was still left an insufficiency at 15 inches of 4°. This operation improved the patient's condition very decidedly. He has never been annoyed with double sight since. As the cut muscle reunited and gained in strength, however, there was still some burning and pain on use of the eyes. Prisms were used to exercise the weak muscles. On November 25th examination showed at 18 feet insufficiency of interni, 3°; abduction, 12°; adduction, 20°. At 15 inches, insufficiency of interni, 8°.

On November 27th tenotomy of the left external rectus was made, over-correcting the insufficiency and producing internal strabismus with homonymous diplopia for distant objects. A limiting conjunctival suture was so adjusted that the diplopia disappeared when the object was carried about 20° toward the patient's right. This strabismus and consequent diplopia gradually diminished and had quite disappeared by December 11th, when the muscle was again firmly united. Examination December 23d showed perfect equilibrium, both at distance of 18 feet and at reading distance. The patient was directed to begin using his eyes ten minutes at a time and increase five minutes every day. Following this plan he was soon able to study an hour and a half without inconvenience, and was far less subject to headache than previously. The headaches he suffers from now are always preceded and caused by disordered stomach. Renewed examination on May 19th showed this state of affairs unchanged.

Two or three points in this case seem worthy of note:

1. That the patient had been under the care of three oculists of extensive experience, and each of the three had simply prescribed a weak spherical glass and attributed the failure to get relief to malaria, impoverished state of the system, and so on.

2. The very slight power of adduction, as shown by the ability to overcome a prism with base outward, in looking at an object 18 feet distant. The marked increase in adduction power between the date of the first operation and that of the second I believe to be due largely to the "ocular gymnastics" from the use of prisms.

3. The fact that the operation which gave relief not only fully corrected the insufficiency but produced a temporary internal strabismus of about two weeks' duration. That such over-correction is necessary is the doctrine laid down by the text-books, but it seems to be frequently overlooked by operators.

4. What was not accomplished by the operation is also of interest. Though the headache from ocular strain, the diplopia, and the inability to use the eyes were all relieved, the patient still suffers from occasional digestive disturbance and consequent headache.

In view of the wonderful and far-reaching influences of anomalies of ocular muscles, and the brilliant cure of distant affections wrought by correcting such anomalies, as claimed by a few enthusiasts, the result in this case is worthy of note.

The Decadence of the Little Toe.—According to Pfitzner, the little toe of man is degenerating. In thirty-six per cent. of the cases he has observed it had only two instead of three phalanges.

THE PROPRIETY OF OPERATIVE INTERFERENCE IN GUNSHOT WOUNDS OF THE ABDOMEN.

By DWIGHT DICKINSON, M.D.,

SURGEON, U. S. N.

THE following notes may assist in determining the propriety of operative interference in cases of gunshot wounds penetrating the abdomen.

On the evening of January 26, 1890, J. R. S——, U. S. N., white, a strong, healthy young man, twenty-one years of age, received a gunshot wound in the abdomen while under the influence of alcoholic drinks and engaged in a fracas ashore at Vallejo, Cal.

The patient was helped by his comrades into a small boat and taken across Napa Creek to his vessel, the U. S. Receiving Ship Independence.

When first seen by a medical officer, at 6.15 P.M., one hour after the receipt of injury, a circular opening was found in the abdomen, large enough to admit the tip of the little finger, one-half inch below, and two and one-half inches to the left of the umbilicus. The respirations were 30 per minute, pulse changing from 120 to 140. There was no marked bleeding from the wound. The urine was drawn by catheter, and found of normal character. Patient vomited, several times, glairy mucus. On account of shock it was at first deemed advisable to postpone operative interference. Hot bottles were applied to feet, and a subcutaneous injection of sulphate of morphine, one-fourth grain, administered.

The symptoms of stupor and weak, frequent pulse not disappearing, the restlessness and respiration increasing, an explorative laparotomy was decided upon, and, assisted by several naval surgeons, I performed the same three hours after patient was wounded.

The incision reached from just below the umbilicus, in the median line, to about one and a half inch above the symphysis pubis. After opening the peritoneum a moderate amount of blood escaped. The intestines were carefully drawn out and examined for perforations. They were kept covered by towels wrung out of hot water while exposed. As far as the examination went, there were twelve perforations of intestines and omentum. Those of the former were closed by Lembert's sutures. One of the perforations had injured a large mesenteric artery, which was bleeding freely on exposure. This was ligated and the bleeding stopped.

During the operation the patient's condition grew alarming. The respirations reached 60, and the pulse about 180 and feeble. At this stage it was decided to discontinue the search for further perforations. The intestines were sponged off and returned. Three deep and three superficial sutures, a drainage-tube of hard rubber, iodoform, antiseptic gauze and cotton, held in place by bandages, finished the dressing of the wound. Patient was put on a dry mattress and made comfortable.

In the following night patient gradually rallied from the operation and the stupor vanished. He was given occasional doses of Magendie's solution of sulph. morph., and ice pellets relieved the retching. No stimulants were needed. After the operation the patient vomited blood once.

January 27th.—Morning temperature, 98.6° F.; pulse, 140; respiration, 30. Is perfectly conscious and rational. Urine drawn off by catheter. Complains some of continuous pain in abdomen, at times very severe. Dressings not disturbed. Hypodermic injections of sulph. morph. one-sixth grain. Iced milk in small quantities. Temperature remained normal during the day, respirations about 30 per minute. Pulse showed a tendency to become more frequent and weaker. In afternoon commenced stimulants. Brandy, half ounce, every hour. Extremities warm all day.

Evening: Drainage-tube removed and soft rubber one substituted. Discharge serous.

January 28th.—Patient died at 4.25 this morning, of

heart failure, thirty-two hours after operation. Autopsy, at 1.30 P.M.: Found a moderate amount of bloody serum in abdominal cavity. No blood. Recent adhesions of small intestines. The intestines above injury distended with gas. Two openings in small intestines were discovered which had not been closed at the time of operation. The bullet—calibre 32—was found buried in muscular structure just above right great sciatic notch, the track being downward, backward, and to the right. Bladder uninjured.

Although the patient lived but thirty-two hours after the operation I think the latter can be called a partial success, from the fact that he rallied and regained consciousness. I am convinced that the hemorrhage from the mesenteric artery was sufficient to have destroyed life very soon had the vessel not been tied.

The advantages claimed are, that by regaining consciousness the patient could have made a will had he so desired, he could have given testimony relative to the shooting, and he could make religious preparation for death. The last-mentioned act was done.

NAVY YARD, MARE ISLAND, CAL., July 22, 1890.

WORK IN THE EAR DEPARTMENT OF THE VANDERBILT CLINIC.

BY HUNTINGTON RICHARDS, M.D.,
NEW YORK.

THE following brief statement of the work done in the Ear Department of the Vanderbilt Clinic, between January 1, 1888 (the date of opening), and May 24, 1890 (on which day the fifteen-hundredth new case was recorded), will interest those readers of the MEDICAL RECORD who have paid special attention to aural diseases, and also those who may be curious to learn something definite regarding the growth and method of work pursued at the clinic.

Until the establishment of the "Vanderbilt" there never had existed in the out-patient or clinical department of the College of Physicians and Surgeons a special clinic devoted exclusively to diseases of the ear. The aural department is the youngest of the ten for which provision has been made within the walls of the building on the corner of Sixtieth Street and Tenth Avenue. It is also, I believe, the smallest of all our clinical departments, being but a baby in size as well as years when compared with such departments as those of General Medicine, General Surgery, and Children's Diseases; and the data herewith about to be presented therefore fall very far short of serving as a measure of the sum-total of work done by the Vanderbilt Clinic; while as an evidence of steady growth and of careful and thorough work they may be taken as a fair example of the methods and history of the entire institution up to date.

The system of recording every case applying for treatment, enjoined upon us by the managers of the clinic at its opening, has in the aural department been followed out with great care. I am certainly keeping within bounds in saying that the average length of our clinical histories would be represented by twelve lines of foolscap paper, while many of them have greatly exceeded this length. In reading over the whole fifteen hundred histories, as I did before compiling these statistics, I found but six instances wherein no diagnosis had been entered, and wherein the clinical notes were too brief or too imperfect to allow of my supplying the omission. Four other cases were recorded as improper subjects for treatment in our department, and one other was set down as too restless for diagnosis. Among the 1489 remaining patients the following diagnoses were clearly established:

Otitis media catarrhalis chronica in 595 cases, among which were included 132 cases of impacted cerumen. Otitis media purulenta chronica was found 431 times. Of acute catarrhal otitis media there were 142 instances; of acute purulent ditto, 97. In 56 cases a diagnosis was made of subacute catarrhal otitis media. In 9 instances the diagnosis was recorded as acute middle ear catarrh, with an existing perforation of the drum-membrane, and in 4 instances as chronic catarrh with ditto. Under a general heading comprising all instances of external otitis, chronic and acute, and covering dermatitis and eczema of the auditory canal and auricle, I have grouped no fewer than 90 cases; while in addition to these a diagnosis of furuncle was established in 40 others.

Of foreign bodies found within the auditory canal or tympanic cavity there were in all 17 instances. Traumatic perforations of the membrana tympani were clearly proved to exist in 5 ears, and were suspected from the anamnesis and lesions observed in 6 ears. Of fracture of the temporal bone leading to aural symptoms and lesions there were 3 instances. In 4 cases a well-established, and in 2 cases a suspected, diagnosis of tubercular purulent otitis media was made. In 3 instances a special diagnosis of "Ménière's symptoms" was entered, while these symptoms were recorded as present in 8 cases otherwise classified.

Other rarer diagnoses were the following: Otalgia and dentition, 9; otalgia and pharyngitis acuta, 2; hæmatoma auris, 2; epithelioma auriculæ, 1; fibroma auriculæ, 1; erysipelas, 1; recurrent dermatitis from frost-bite, 1; incised wound of auricle, 1; cystic abscess of auricle or auditory canal, 9; mumps, 1; microtia, 1; deaf-mutism, 5; otitis interna, 7.

The presence of symptoms indicative of implication of the mastoid cells was noted in the history of 21 cases.

Adenoid vegetations in the pharynx vault were unmistakably found in 33 cases, and were doubtless present in many others not so carefully examined. Aural polyps of sufficient size to deserve special mention were found in 56 cases.

In the matter of operations done, the department makes a very respectable showing. Thus, paracentesis of the drum-membrane was performed 54 times in 49 cases; the removal of one or more aural polyps was resorted to in 38 cases (such removal being almost without exception effected by snare evulsion); abscesses were incised 13 times in 12 cases, furuncles in 20 cases; in 8 cases a "Wilde's incision" was made; in 3 other cases the mastoid cells were opened by drilling.

As evidence of the distribution of the work between my assistants and myself, I would say that out of the total number of 1,500 clinical histories I find but 345 recorded wholly in my own handwriting, and only 38 others in which my notes appear on the books; and that our practice has been to have the man who saw and treated the patient record himself the lesions observed and the treatment followed. Many cases not recorded by me were from time to time referred to me, yet such were not considered as cases under my especial care. So, too, with regard to operations. While it was my duty to see that they were competently performed, and neither they nor the records were unreservedly committed to other hands, yet I aimed at training all my co-workers to a point rendering them competent to do any kind of clinical work, and as soon as I was satisfied of their ability, gave them all kinds of work to do. They were generally men who, on entering the service of the clinic, were already fitted to bear a considerable load of responsibility. Two of the operations of drilling the mastoid cells were performed by Dr. F. N. Lewis, who was then our senior assistant and fully competent to do this operation, as was proved by the good result obtained in both cases. The third case I did myself at the New York Eye and Ear Infirmary, and the operation did not save the patient's life. (This case, which was, to be sure, one of especial severity and gravity, and remarkable in many respects, I have reported in full before the American Otological Society in July last.)

As illustrative of what has already been said regarding the fulness of clinical notes, which has constituted an especial feature of our work, I would here add that in look-

ing over the history-books I find no fewer than seventy-one carefully made pen-and-ink drawings of the lesions observed, in addition to such as are merely diagrammatic.

A few words in regard to our general methods of treatment may be of interest to some readers.

The important etiological relations existing between lesions of the naso-pharyngeal region and those of the ear are never forgotten in our department, and we frequently seek, and are often greatly aided by, the co-operation of the adjoining Throat Department in our efforts to help those who apply to us for relief. Our experience has abundantly proved the value of a prompt resort to paracentesis in cases of acute otitis media; and also of the "Bacon's artificial leech," and of an early dose of calomel in these cases and in acute inflammatory affections of the auditory canal and auricle. The special lesions and special history of each such case are of course the determining factors leading to choice among these remedial agents, rather than the bare determination of the diagnosis, and nobody at all familiar with aural practice will expect me in this place to attempt the laying down of rules for guidance in regard to these matters of detail. We do not allow ourselves to be bound by, and subservient to, so-called "systems of treatment" and rules, while endeavoring to pay due regard to our own experience and that of others (especially of Professor Buck, the head of our department), in our choice of means to an end.

In chronic purulent otitis media, powders and astringent ear-drops are used in suitable cases, the former in small quantity, the later rarely; the douche is chiefly, and often exclusively, relied on in combating such cases, and powdered medicaments in particular are more sparingly and much less frequently used at present than they were in the early days of the clinic. It should be unnecessary, but it may be well to add one more remark concerning our treatment, viz., that the relief of the patient from suffering is made our chief object, and severe and painful remedies are not employed where there is reasonable ground for hope that less radical means will accomplish this object.

The growth of the clinic is shown in the subjoined table, giving the number of new cases applying in each quarter of a year from the opening of the dispensary to and including May 24th, anno currente:

New Cases in each Quarter.

1.	Jan.	1,	1888,	to March	31,	1888	16
2.	April	"	"	" June	30,	"	112
3.	July	"	"	" Sept.	30,	"	140
4.	Oct.	"	"	" Dec.	31,	"	132
5.	Jan.	"	1889,	" March	31,	1889	180
6.	April	"	"	" June	30,	"	148
7.	July	"	"	" Sept.	30,	"	170
8.	Oct.	"	"	" Dec.	31,	"	186
9.	Jan.	"	1890,	" March	31,	1890	248
From	April	"	"	" May	24,	"	168
						Total	1,500

With rare exceptions our *clientèle* have been drawn from the extensive tenement-house district lying to the north, west, and south of the clinic; and we have been struck by the large percentage of such cases supplied by the blocks lying in the immediate neighborhood of the building itself.

Finally, I cannot in justice conclude this *résumé* of work done without expressing my indebtedness to the gentlemen who have been my faithful and painstaking co-workers in building up and in keeping up the clinic, and in order to do this the more explicitly I subjoin their names and periods of service.

Dr. Gorham Bacon, Attending Aural Surgeon at the New York Eye and Ear Infirmary, was my sole fellow-laborer at the start, and from January 1st to some time in May, 1888, he divided with me the hard work of setting the infant clinic on its legs. On his resignation, in May, 1888, Dr. F. N. Lewis took his place, and served until called away by more important duties in March of this year. Dr. William Cowan began work in June, 1888, and is still serving. Dr. Robert Lewis joined us in October, 1888, and is still on our staff; so, too, are Dr. N. S. Roberts, who began work in March last; Dr. W. Eyre Lambert, who began in May, and Dr. J. L. de Victoria, who enlisted more recently, being appointed *ad interim*, pending the next meeting of the College Faculty, by the Board of Managers of the Clinic. Each of these gentlemen was selected because he appeared competent to do the painstaking and time-consuming work, calling for skill and for patience, that is demanded by our department; each of them has proved by his work that he was well chosen.

Clinical Department.

TWO CASES OF STENOSIS OF THE LARYNX —RAPID TRACHEOTOMY, DIVULSION, RECOVERY.

By EMIL MAYER, M.D.,

ASSISTANT SURGEON, NEW YORK EYE AND EAR INFIRMARY.

Case I.—James M——, aged twenty-five, Italy, barber, peared at the throat clinic of the New York Eye and Ear Infirmary, October 29. 1884, for treatment. Patient has intense dyspnœa, which has been growing worse within the past few days. Voice thin and stridulous. Save that his history is a specific one no connected history can be elucidated. His pharynx was one mass of cicatrization. The induration in his larynx destroyed all semblance of the natural parts and left but a small chink for breathing. Immediate tracheotomy was advised, and without an anæsthetic. Patient positively refused to do without the anæsthetic. As he required immediate help, he was anæsthetized and the operation undertaken. The dissection was more than half completed when respiration ceased and cyanosis set in. The trachea was firmly seized and with one incision the operation was completed; air rushed into the lungs and respiration became re-established.

From this time on patient did well, and at the end of eight weeks discarded the tube and the wound healed. During this time large doses of iodide of potassium were given. Much of the intralaryngeal induration had subsided and there was ample breathing space. There was no choice in the manner of operating, cocaine had not been announced as a local anæsthetic and the operation was imperative. Without it he must have died a horrible death within a short time.

There was no unusual hemorrhage.

Case II.—Mr. W. A. Y——, aged thirty-eight, printer, appeared at clinic July 5, 1890. His condition was one of great distress. His voice had a harsh, metallic sound and was feeble, and the dyspnœa was intense. He dates his trouble as resulting from an exposure to cold in the early part of February of this year. He first noticed a dry spasmodic cough, his inspirations were noisy, and his breathing was difficult at night only. This latter soon became noticeable in the day. He continued at his work and his sleep was fair. He gradually grew worse and within the past two weeks his rest has been greatly disturbed, waking with a choking sensation. His inspirations have become noisy and he is an object of universal attention wherever he goes. He has attacks of great dyspnœa of short duration now. His deglutition is not impaired, face has an anxious look, appetite good, bowels regular. Present condition: Respirations 24; inspirations noisy; cough spasmodic and dry; pulse 100 and not strong; no pulmonary or cardiac trouble; temperature normal; gives a specific history; pharynx normal; larynx in a condition of subacute congestion; the vocal cords are seen pink in color and do not move in phonation; a very narrow chink about one line in width is discernible.

A small-sized Schrötter's tube was introduced, under cocaine anæsthesia, between the vocal bands and then

withdrawn. The cause of the stenosis was now apparent. There was a firm crescentic band across the trachea, nearly filling its diameter and directly below the cords, preventing the separation of the vocal bands. The tube has separated the cords and torn the membrane. Tubes of larger dimensions were introduced at intervals of two days for the next three weeks, the increase in size being gradual. Their introduction caused no trouble beyond local irritation which quickly subsided. At the end of three weeks, the largest tube having been easily introduced, there were but a couple of small flaps remaining. The largest tube was now introduced weekly and now (Aug. 30) there is no sign of any obstruction. He was relieved by the first introduction of the tube, and within three weeks of the first application no evidence of dyspnœa was apparent, he slept well and returned to his work. His medication consisted of large doses of iodide of potassium. He was seen by Dr. Morris J. Asch, who concurred in the diagnosis and treatment. The tube was first used as a means of diagnosis and every precaution taken to prevent injuring his larynx. The patient was watched and if necessary tracheotomy was to be performed. He bore the dilatation well, however.

A case similar to this, in its pathological condition, was reported by Dr. Asch to the American Laryngological Association in 1887, and is to be found in the "Transactions" of that year. This case was that of a young lady who had "at the level of the cricoid cartilage, and encircling the opening of the trachea, two pale, thick, shining swellings, united posteriorly by a membranous expansion, and leaving the anterior wall free, which diminished the opening of the larynx to a third of its natural size." The treatment followed was, nicking the membrane by means of Whistler's laryngotome and then divulsion by means of long laryngeal forceps, opening laterally; later, Schrötter's tubes were used. Recovery was complete. The patient was under my care then, under the direction of Dr. Asch.

In the discussion which followed (*loc. cit.*) the objection made was that the results of treatment by dilatation alone were not apt to be permanent. I have seen the young lady here referred to within the past six months. There has been no return of her tracheal trouble and over four years have elapsed since she was under treatment. In this case the trouble was evidently tubercular in its origin.

The advantage of dilatation lies in its bloodless nature and the rapid results obtained. The ordinary O'Dwyer tube could not be tolerated by either patient, although it is likely that the newer and hard rubber tubes might be better borne. The Schrötter tube is of hard rubber, hollow in the centre with several openings at the laryngeal end. It is the shape and length of a male urethral sound and in width varying as the sounds. It is readily introduced with the aid of the laryngeal mirror. The patient soon becomes accustomed to its use. It was not necessary to leave the tube *in situ* more than one or two minutes, although Gerhardt, Chiari, and others report cases where the patients permit the tubes to remain *in situ* for twenty minutes, introducing them themselves.

Dilatation should be gradual, as undue violence may occasion inflammation and thus render an artificial opening necessary. Another advantage of this tube is that deglutition is not interferred with during treatment.

238 E. 116TH STREET.

ESSENTIAL HYDROPS.

BY MARCELL HARTWIG, M.D.,

BUFFALO, N. Y.

THE public speak of hydrops, or dropsy, as if it were a disease, while physicians regard it as a symptom of disease. Is it possible for such a condition to exist as an idiopathic disease? I submit herewith the history of a case and request discussion and information of similar cases which members of the profession may have seen. With a large general practice and sixteen years' experience I have not seen a like case, nor can I find any literature on the subject. To some of the profession it might appear that the case has been reported too soon after recovery, but the reason for so doing is that if I were to delay the publication important details might be forgotten. Dr. Schroeter, in Buffalo, can corroborate my statements.

Miss G——, a girl of previous good health, sixteen years of age, of large, well proportioned frame. She was pale, and menstruation was irregular and scanty. Father and mother living and enjoy good health. Two near relatives of the father died of consumption. The patient had a general feeling of sickness and lay in bed two days, but was forced to go to work again. She could not stand the effort and went to bed again with œdema of the eyelids and feet, and an increasing fulness of the abdomen. Some fever is said to have been present for a week.

On July 1st I was called, and found the following status: Virgo intacta; abdominal dropsy reaching in its distention to the level of the navel, and fluid moving to the sides only slowly upon change of the position of the body, œdema of the legs and face; hydrothorax duplex on the right side much higher than on the left; lungs and heart normal; no albumin found in the urine; temperature, 103°F.; liver and spleen also showed nothing abnormal. The accumulation of the abdominal fluid displaced the under surface of the liver above the lower border of the ribs. Treatment consisted of quinine in sufficient doses to overcome a possible malarial infection, afterward digitalis with iodide of potassium, and later acetate of potassium, spirit of nitrous ether, and fluid extract of buchu, occasionally a saline purge, although the bowels were inclined to be loose. On July 10th I tapped the abdomen, and convinced myself of the correctness of my diagnosis of hydrothorax by withdrawing a hypodermic syringeful of clear watery fluid. The ascitic fluid present amounted to about five quarts. It was clear, light greenish in color, and deposited upon standing a somewhat coherent coagulum with a reddish tinge. The following day the temperature began gradually to fall to the normal, while the fluid in the thorax began to diminish and the ascites did not reappear.

For a few days if seemed as if the lowest parts of the abdomen gave a duller sound on percussion, but if any reaccumulation took place it disappeared, and on July 22d the girl was apparently well recovered from the fever, only weak from her previous disease. The pulse reacted readily upon slight excitement.

The case is one of essential hydrops, a condition which may have been overlooked by authors, or if described its publication is not known to me. Some may regard this condition as a sequel of scarlet fever, but no eruption or throat trouble preceded the case, and the urine was several times found to be absolutely free from albumin. A tubercular peritonitis could be thought of; but after the ascites disappeared there was no thickening of the abdominal walls; besides, the thoracic effusion would probably not have vanished spontaneously. Some symptoms would have been found in the lungs, at least, in a case of tuberculosis, but nothing was detected upon very careful examination. A monocyst is excluded by the continued fever and the general spread of the dropsy.

How can such a hydrops be explained? I do not venture a hypothesis, though the continued low fever would indicate some inflammatory process. Is it possible that this was a condition of capillitis venosa generalis, or is the lymphatic system to be accused? The glands were nowhere swollen.

The case occurred in private practice. Exact measurements of the quantity of urine were impossible, but the amount seemed to have been sufficient throughout, somewhat larger in quantity after the tapping. The case resembled a renal dropsy, but this it could not be, albumin being absent and the fever continuing too long for acute nephritis.

A liver ascites would not be accompanied by hydrothorax or œdema of the face. Myxœdema can be excluded from the possibilities, as the case showed none of the usual symptoms of this disease, and nothing remains for us but to consider the case described as a new disease—essential (or inflammatory?) hydrops.

ANOTHER CASE OF SPONTANEOUS GANGRENE IN A CHILD.

By D. S. MADDOX, M.D.,

MARION, O.

The two interesting cases of dry or spontaneous gangrene occurring in children recently reported in the Medical Record, respectively by Dr. W. H. Hubbard, of Marion, Ind., and Dr. T. C. Wallace, of Cambridge, N. Y., prompt me to relate a fatal case of this character which came under my observation a few years ago while practising in a remote country district in the State of Indiana. As I have no written record of the case further than an old ledger, which supplies me only with dates, I am compelled to rely solely on memory for the details.

October 19, 1885, Mr. S—— brought his little boy, a child between five and six years of age, to my office for the purpose of having me look at "a black spot on his foot." Examination revealed a dark-colored patch, possibly as large as a silver quarter, over the metatarsal joint of the great toe, whether of the right or left foot I cannot now recall. The child had always been healthy and no history of injury could be elicited. As a topical application a weak solution of carbolic acid was ordered and the foot enveloped in cotton batting. The patient living at a distance of several miles, I requested the father to report the progress of the case to me in a day or two. At the end of two days he called and told me that the child was comfortable and that the gangrene had spread but very little.

October 23d, I saw the patient at his home and found that the disease had spread considerably. In other respects the child appeared to be in good condition.

On October 25th, six days from the date of my first inspection of the foot, I again went to visit my patient. As I dismounted from my horse in front of the log-cabin, my ears were greeted by cries of distress from within. Hurrying into the cabin I found the entire family grouped about the bed on which lay my little patient in the death agony. On looking at the diseased foot I found it black and shrivelled clear up to the ankle-joint.

I learned that the child had, while sitting on the floor playing, an hour before, fainted, but soon revived and resumed his play. A few minutes before my arrival he again fell back unconscious, and died in the manner above stated. All the authorities agree that spontaneous gangrene is of extremely rare occurrence under the age of ten years, but possibly if all the cases that do occur in children could be collected, statistics would scarcely warrant us in making such free use of the term *senile* as we are accustomed to make in the consideration of dry gangrene.

A RAPID CURE OF TONSILLITIS.

By A. S. HUDSON, M.D.,

STOCKTON, CAL.

In the year 1872 a German woman, twenty-five or thirty years of age, was seized with a painful sore throat, or quinsy. She came to the writer for relief. Being poor and obliged to do her own housework, she trembled at the prospect of a long period of disability. She was given fully two-thirds of a grain of morphine, with ten drops of Norwood's tincture of veratrum viride, which was taken on going to bed.

Knowing our text-books furnished no remedy or plan of treatment that would arrest the course of inflamed tonsils, and taught no way to prevent suppuration thereof, you can judge of my surprise the next morning, after breakfast, to see the patient well and up, and about her housework. She was cured, and had no further treatment.

Some months, or a year thereafter, a robust colored man, a porter on the Pullman cars, was seized with a sore throat at Ogden. His run on the Central Pacific Railroad from thence to his home in Oakland took two days. The writer saw him on the morning of the third day. He had fever, a flushed face, with tonsils swollen and painful as usual.

He was put upon the following:

Norwood's tincture of veratrum viride...	30 drops.
Sulphate of morphine.....	1½ grain.
Distilled water.....	6 drachms.

Of this, one teaspoonful was to be taken every hour for two hours, and then every two or three hours, as needed.

This is five drops of veratrum and a quarter grain of morphine in a teaspoonful of water as one dose. The next morning this patient was found to be up and dressed; he had had his breakfast and was smoking his cigar, his throat being entirely well. This, to my great delight, was a confirmation of the preceding case, described above.

Since then, the writer has seen no case of pure tonsillitis that has not yielded at once to the above treatment in the same brief time—that is, from eight to twelve hours, and the patient is an invalid but one day after the beginning of treatment.

If there is any meaning in the common word "cure," that meaning centres in these two words, viz., veratrum and morphine for tonsillitis.

How it is with other medical men I know not, but for me, in a practice of half a century, I know of no drug or drugs which have the power to control inflammation equal to these agents. They harmonize well together. The liability of nausea to follow the use of either of them alone is greatly modified by their combination. Hence there is reason to believe they exert therapeutic powers, when in conjunction, that are absent or lost when used separately.

The last case of quinsy the writer had to manage lasted five or six days. But the subject insisted in being treated while attending to business. She was medicated at night, and what relief that period brought was lost during the day while she was teaching music. At last, seeing she could not get well while on her feet, she lay by for twenty-four hours, took the medicine, and fully recovered without the formation of abscess.

DISLOCATION OF THE HUMERUS INTO THE AXILLA IN A CHILD.

Dr. A. R. Brackett, of Nashua, Ia., writes: "I had recently the privilege of meeting with what I believe to be a rare accident, viz., dislocation of the humerus into the axilla, occurring in a child of two years. The flattening of the shoulder and Hamilton's straight-edge test established the diagnosis without difficulty. The reduction was made under chloroform by manipulation, the head of the bone returning to the glenoid cavity with the orthodox snap.

"The mishap was due to the sudden lifting of the child by the extended arm. Dr. Gross states that he never had seen a case under twelve years, and other authorities at my command coincide as to its rarity."

More Hydrophobia.—St. Paul has a new hydrophobia fad. A Chicago paper states that a number of people in that city believe themselves to be suffering from hydrophobia convulsions in consequence of drinking the milk of a cow that had been bitten by a mad dog.

Progress of Medical Science.

The Rôle of Uric Acid.—According to Dr. William Roberts the formation of uric-acid concretions and calculi is really to a large extent independent of the absolute amount of uric acid present in the urine. A person may be excreting a relatively large amount of the acid, and never be troubled by anything in the nature of a gravel; while, on the other hand, with an abnormally small proportion of the acid in the urine, his life may be made a misery by the constant formation of irritating concretions. In other words, it is the deposition of the uric acid, and not its excretion, that determines its pathological significance. It was the conception of this fact that led Sir William Roberts to undertake a series of researches with the object of ascertaining the conditions that led to the too ready precipitation of the acid in certain cases independently of its presence in excess. The explanation of this phenomenon is that, in normal urine, uric acid is found in the form of *quadurates*, a super-acid combination first discovered by Bence Jones. These quadurates have the remarkable property of being not only soluble in normal urine, but of being decomposed and setting free the acid in the presence of water. This takes place in urine under ordinary circumstances in the course of three or four days, but the rapidity with which the whole of the uric acid is set free varies greatly in different specimens of urine, whether from different persons or from the same person at different periods of the day. The fact that the quadurates resist the influences at work for so long a period led the author to infer that the urine must contain ingredients which inhibit or greatly retard the action of the water in the urine upon the quadurates. The most important factor in this respect has been shown by him to be the saline constituents, and secondly, of the pigments in the urine. These results explain with a clearness that has not before been approached, the prevalence of acid calculous formations among peoples in countries and districts, and among classes of our own population in which, for any reason, the diet is unduly poor in saline matter. In certain districts in India, for instance, where salt as an article of diet is more or less of a luxury, acid calculi are extremely frequent, and among the children of the working classes in this country the use of food stuffs poor in mineral constituents may account for the preponderance of calculus among them as compared with the children of parents higher up in the social scale. So far as India is concerned, the lack of salt as a condiment is enhanced by the marked poverty of rice in mineral constituents. It is not denied that the nitrogenous qualities of the diet does influence the production of uric acid, but, as we have already pointed out, this is of secondary importance, because meat contains a large proportion of salts, the effect of which is to tend to keep the acid in solution. The well-known immunity of sailors from calculous affections, notwithstanding a dietary rich in nitrogenous matter, is presumably due to the large proportion of saline materials contained in the salted meat at their disposal. There is a popular idea that the ingestion of sugar is associated with a hyper-production of uric acid, but neither clinical observation nor experiment at all confirms this view. That the nitrogenous constituents of the dietary are not alone, or even principally concerned in the formation of the acid, is evidenced by the fact that the proportion of the acid in the urine of carnivorous animals is a thousand times less than that in urine of certain small birds and insects which feed exclusively on articles drawn from the vegetable kingdom. The practical outcome of these researches, which we have merely outlined, is, as stated by Sir Alfred Garrod, that the great object in the preventive and curative treatment is to correct the conditions which bring about the changes in the urates which lead to the deposition of the insoluble acid. This fact may prove the *point de depart* of an improved method of dealing with a very obstinate and painful pathological condition, and it almost justifies the hope that, at some time in the near future, the physician may be enabled to forestall the surgeon, and by rendering the formation of this class of concretions a rare event, to dispense with the skill and ability in this particular department with which the name of Sir Henry Thompson has for so many years been honorably associated.—*Medical Press.*

Dangers of Hypnotism.—At the late meeting of the British Medical Association, Dr. Norman Kerr, of London, introduced the subject of hypnotism. He said that he accepted practically all the alleged hypnotic phenomena as facts. But in hypnosis, after close watching, he saw only a distorted cerebral state, an abnormal physical condition, with exaltation of receptivity and energy. Was hypnotism a desirable and justifiable remedy? Several considerations must be taken into account in answering this question: 1. Only a limited number of persons were susceptible. 2. The after-effect was a disturbance of mental balance, a dissipation of nerve energy, and nerve exhaustion. Frequent repetition was apt to cause deterioration of brain and nerve function, intellectual decadence, and moral perversion. 3. Hypnosis was a departure from health, a diseased state. 4. Hypnosis was a true neurosis, embracing the lethargic, cataleptic, and somnambulistic states. Thus, if a disease were cured by hypnotism, this would be only by substituting another disease. The suffering was sometimes temporarily assuaged by hypnotic suggestion, but the underlying disease was not necessarily cured by hypnotic anæsthesia though evanescent oblivion might be secured. 5. The lethal power of the morbid disorder, of which the pain was a merciful if unwelcome messenger, was in most cases increased. The few cases he had seen apparently benefited would probably have yielded to ordinary treatment; but the patients resisted or were passive to that, while they looked forward to, believed in, and gave themselves up to the mesmerizer. 6. The dangers of hypnotism were very great. Each séance might bring the hypnotee more under the control of the hypnotist, ending often in the complete submission of the former to the will of the latter. A jelly-fish slavery, without mental or moral backbone, was infinitely worse than days of pain and nights of agony. There were many wrecked lives through mesmerism. 7. An elective and subtle activity, ending in disaster, might develop between operator and operated upon. 8. In the lethargic and cataleptic states criminal assaults had been committed by medical men, who had been convicted and punished. In the somnambulistic state subjects had been compelled by the operator's behest to commit crime. So serious were these evils that French surgeons had been prohibited from practising hypnotism in the army and navy. 9. It is not desirable that the control of any one's thought and actions should be in the keeping of a fallible fellow-mortal.

In view of all these possible dangers, Dr. Kerr could not understand why medical men in family practice should have been incited to hypnotize patients of both sexes and all ages in the daily round of domiciliary visiting. He strongly deprecated public mesmerism—medical, philanthropic, or commercial—as degrading and disgusting, and particularly censured the medical patronage and endorsement thereof.

Removal of Micro-Organisms from Water. — Dr. Krüger, considering the fact that more bacteria are usually present in rivers than in lakes, notwithstanding that lakes themselves in many cases are more or less polluted by rivers passing through populous towns, believes that this rapid decrease in the number of organisms may very possibly be due in part to the action of direct sunlight, but in the main to the tendency of water in a comparatively undisturbed state to deposit and precipitate. He therefore carried out a number of experiments with a view to determine how far the removal of organisms was brought about by the mere mechanical deposition of inert matter

and also by precipitation as a result of chemical action. The mechanical precipitants employed, all in a state of fine powder and sterilized, were alumina, brick dust, clay, chalk, sand, coke, and charcoal. Water obtained from an ordinary service-pipe was impregnated with a liquid containing a bacillus growth of a species incident to tap-water. This was divided into two portions — one for precipitation with the inert substance, and the other was untreated for the sake of comparison. Experiments were similarly carried out in which precipitation was obtained as a result of chemical action such as is brought about by the addition to the water, containing naturally lime, magnesia, etc., substances like wood-ash, sulphate of alumina, and slaked lime. The general conclusion come to by the author from the results obtained is that undoubtedly large numbers of bacteria are carried down by inert substances merely sinking in the water, but that the action is very considerably increased when, in addition to mechanical deposition, a chemical precipitation also takes place. The corollary is evident—inert substances do mechanically assist in the precipitation of micro-organisms, but preference should be given to chemical treatments.—*Druggists' Circular.*

On the Treatment of Metrorrhagia.—According to Dr. Edis, where the hemorrhage results from constitutional or general conditions it is not always wise to attempt to check the flow at once, unless it is producing such an effect upon the system as to suggest the expediency of arresting it at all hazards. In certain cases of heart disease uterine hemorrhage, in place of aggravating, seems to relieve the cardiac symptoms, and should not, therefore, be hastily repressed. Strophanthus, digitalis, and aconite here prove most useful. Where the action of the liver seems to be at fault, attention to diet, abstention from alcohol, and the administration of a few grains of calomel, blue mass, or eunonymin, followed by a brisk saline aperient, will probably be indicated. If albuminuria be present, or if the kidneys seem to be at fault, encourage vicarious action of skin and bowels by means of diaphoretics and purgatives, and follow out any other indications suggested. In cases of menorrhagic chlorosis, bromide of potassium in half-drachm doses has proved of service, iron with strychnine being given between the periods, and attention being also given to ordinary hygienic details, to avoidance of tight-lacing and of physical overwork. It is well to remember that hæmophilia, scurvy, malaria, from residence in damp or marshy districts, lead-poisoning, and other unusual conditions will occasionally explain the presence of metrorrhagia. The mere recognition of the cause will be at once a suggestion as to the proper course of treatment.

Where uterine hemorrhage persists, notwithstanding the employment of constitutional measures, and there is no apparent local cause to account for it, we should without further delay dilate the cervix uteri and explore the interior of the uterus. Numerous instances have been recorded of patients dying from uncontrollable hemorrhage, where a *post mortem* examination revealed the existence of some intra-uterine growth, such as a polypus or submucous fibroid, retained product of conception, or fungoid condition of the endometrium, which could readily have been removed or dealt with had appropriate measures been adopted in time.

The insertion of a sponge-tent into the cervix uteri arrests the hemorrhage for the time being, and facilitates subsequent exploration of the uterine cavity. As to any risk or reflux through the Fallopian tube, as sometimes spoken of, it is a mere visionary objection, and need not deter us from employing dilatation in suitable cases. Plugging the vagina is a very unscientific procedure, as well as being unsatisfactory and inefficient. It should seldom, if ever, be resorted to.

It would clearly be impossible in these brief remarks to indicate in detail the methods of local treatment, such as curetting for villous endometritis, removing polypi, operating for cancer, the use of electricity in cases of myoma, the best method of dealing with cases of incomplete abortion, or replacing an inverted uterus. If we have once clearly made out the indications for treatment the remainder is merely a matter of detail. But now and again instances occur where no assignable cause, either constitutional or local, can be made out, and where remedies fail to restrain the hemorrhage. In such cases the hot vaginal douche may prove of service, or even washing out the uterine cavity with hot water through a double-current catheter, provided the cervix be patulous enough to admit it. Should this fail it may be considered requisite to wash out the interior of the uterus with a strong solution of iodine or of iron. As a *dernier ressort*, the insertion of a sponge-tent into the cervix uteri may be effected.

The reliable remedies at our disposal for checking or arresting uterine hemorrhage are really very few. Ergot is unquestionably one of the most potent; hydrastis Canadensis is a valuable agent and far too little generally known. In cases of myoma it often proves of service when ergot has failed. Hamamelis, which forms the basis of the American nostrum, hazeline, is sometimes useful. Quinine and strychnine, alone or in combination, often succeed in checking or arresting hemorrhage in those cases where the system is much depressed from repeated or prolonged losses. Bromide of potassium in cases of ovarian irritation, and even in hematocele, possesses the power of checking hemorrhage and is equal, if not superior, to any remedy we possess. Chlorate of potassium, in combination with ergot, has lately been strongly recommended. Opium is beneficial in cases where the loss has already been severe. Sulphuric acid and opium formerly were, and still are, with some practitioners, favorite remedies; also, acetate of lead and opium in the form of pill.

The ordinary astringents, such as gallic and sulphuric acids, have really very little influence in restraining hemorrhage, and are far too often relied upon. Iron is often of much benefit in those cases where the loss has been very profuse, as in myomata, and where the blood has become so attenuated as to pass readily through the capillaries. Digitalis, in combination with iron, proves most valuable in cardiac complications.—*The British Medical Journal.*

Self-infection.—Dr. Von Szabo defends the view that the organism itself destroys the microbes ordinarily present in the genital canal, and that hence the healthy lying-in woman is to be regarded as aseptic. The practical inference is that sterilization of the parturient canal is at least supererogatory, if not positively injurious. The steady diminution of puerperal morbidity since the introduction of antisepsis, the grouping of puerperal diseases, and the direct variation of their frequency with the number of examiners all discredit the assumption of self-infection. Clinical observation of lying-in patients bears in the same direction. Fever in childbed more frequently follows injuries of the perineum and vaginal orifice than those of the cervix. If fever depended on the micro-organisms normally present in the vagina this difference should not exist. Contamination of wounds of the external genitals occurs more frequently in childbed from pyogenic bacteria, that so easily accumulate in clinics, than in labor from microbes introduced by efforts to protect the perineum. That infection is so often observed with retained membranes Von Szabo explains, not by migration of pathogenic microbes by means of the pendent membranes, but by imbibition by the uterus of pyogenic material from the vagina during the negative pressure of relaxation following contraction. Manual removal of retained membranes is to be counselled, for it puts the lying-in woman in a more favorable condition than if their removal be left to nature. Street labors and precipitate labors generally are not more exempt from febrile sequelæ than labors in which repeated examinations

have been made, presumably because unfavorable surroundings promote infection from without. Notwithstanding the temporary suspension of vaginal examination during unfavorable hygienic conditions, the morbidity still remains higher than normal—accumulation of septic material in the clinic facilitates infection in childbed, as well as in support of the perineum. Von Szabo asserts also that puerperal morbidity is not diminished by vaginal irrigation before labor. The essential thing in obviating infection is "subjective disinfection," and this is best accomplished with sublimate solutions.—*Occidental Medical Times.*

Palpable Kidneys.—Dr. Kuttner has published a series of articles in the *Berliner klinische Wochenschrift* on those cases in which the kidneys are accessible to the touch. His observations are noticed as follows in the *Edinburgh Medical Journal*, August, 1890: Kuttner distinguishes four principal forms in which the kidneys are accessible to bimanual palpation. 1. The kidney shows a clearly demonstrable respiratory mobility with unimportant amount of displacement. 2. Or it shows a dislocation of the first degree, that is, one-third, one-half, or two-thirds of the organ can be felt; it is mostly mobile during the respiratory act, can be pushed out of place by the hands, and is dislocated, more or less, forward. 3. Or it shows a dislocation of the second degree; the kidney can be felt in all its extent, is easily pushed about, moves with respiration, lies near the anterior belly-wall, or can easily be brought thither. 4. Or the kidney is dislocated and fixed in its abnormal position.

Many of such dislocated and fixed kidneys are congenital and of slight clinical importance, but often this condition is acquired when a mobile dislocated kidney becomes fixed by the development of local inflammatory processes. To understand how one degree can be evolved from the other, it is requisite to have a clear view of the etiological movements which condition the origination of palpable kidneys. In the first line we have to take into account the factors which are in a position to loosen or destroy the connections of the kidneys, and so bring them into other than normal relations to neighboring organs. A few authors suppose that the disappearance of the fat of the capsula adiposa renis is a likely cause. Experience agrees with this view; movable kidneys are frequently met with in the progress of diseases attended by a general loss of fat, as in phthisis, carcinoma, etc., or in acute diseases with high fever, as in typhoid, malaria, etc. Should the fat of the adipose capsule disappear, and be replaced by a slack, wide meshed connective tissue, the kidney loses its firm support and sinks downward by reason of its weight. The tolerably equable pressure it formerly exercised on the peritoneum becomes one-sided and downward, the elastic peritoneum yields and stretches; a sort of renal mesentery is thus gradually formed, and allows the organ to make similar excursions to those we see normally in organs furnished with a lengthy mesentery. To complete this condition time is required. In proportion as the fat of the adipose capsule vanishes, and the kidney assumes a lower position, its respiratory excursions increase in extent and become more and more accessible to the palpating fingers. While the kidneys sink downward, they recede gradually from the direct influence of the diaphragmatic contractions, and on the right side become affected by the respiratory depression of the liver, which still further continues the dislocation downward. Perhaps this is one reason why right-sided movable kidney occurs most frequently. As Cruveilhier has pointed out, tight-lacing is also a powerful factor in the production of floating kidneys. Of not so much importance, in the author's opinion, are frequent pregnancies, abortions, pendulous abdomen, and the supposed causation of hyperæmic swelling of the kidneys occasioned by menstruation (as consequence of the connections between the plexus ovaricus and plexus renalis) as has been asserted by several authors. Occupation, the doing of hard work or none at all, does not seem to have any influence on the production of movable kidney. Traumatisms, such as falls, blows, gymnastic exercises, etc., have also been credited with bringing about this condition. Probably the mobile kidney was present before the accident which was supposed to originate it had happened. All that has been advanced as causal does not explain the floating kidneys of children and young girls. All the causes cited can only be "opportunity causes," which lead up to movable kidneys or make movable ones more mobile only in a certain predisposition, but of themselves are not able to remove a kidney from its normal place permanently or temporarily, and give to it a certain amount of mobility. The frequency of this condition, which was once considered an anatomical curiosity, is much greater among women than men; out of 667 cases tabulated from various authors, 584 occurred in females and 83 in males. It may happen at any age, the greatest number of cases happening from thirty to forty years. It occurs oftenest on the right side; out of 727 cases, 553 were right, 81 left-sided, and in 93 both organs were affected. If the causes of ren mobilis are obscure, so also the symptoms occasioned by it are uncertain and doubtful. Sometimes no inconvenience is felt; at others pains of a dragging, pinching, and boring character are complained of, limited to the affected side or radiating to the other, or to the loins and between the shoulder-blades: they are paroxysmal, brought on by slight exertion, or may take on the form of neuralgiæ, especially sciatic and intercostal. The annoyances increase during menstruation. Many patients are highly nervous, hysterical, and hypochondriac. The urine is sometimes albuminous and (rarely) bloody. Disturbances of digestion are more frequent; but it is doubtful whether the relation is causal or mere coincidence. Constipation may be caused by the mechanical pressure of the displaced kidney. The occurrence of icterus is explicable by mechanical functional disturbances of the gall-bladder, but the author has never seen this complication in any of his cases. Patients with movable kidney are subject to sudden attacks of abdominal pain, feeling of anguish, vertigo, vomiting, and fever. The cause of this has by some been attributed to strangulation of the kidney in the surrounding connective tissue and peritoneum, giving rise to a more or less circumscribed peritonitis; others blame torsion of the renal vessels, especially the veins, and consequent acute congestion; others attribute it to intermittent hydronephrosis. Slighter urinary disturbances are relatively frequent, colicky pains during micturition, frequent desire to urinate, and slight polyuria; these are generally unimportant and transient. As authors differ about the etiology and symptomatology of this disorder, so they deviate from each other as to its cure. Some see the only possible cure of ren mobilis in its extirpation, some in nephrorrhaphy, and others object to all operative interference. The author would limit himself to nephrorrhaphy in the very worst cases threatening life and destroying all comfort. Properly constructed bandages are useful, and most in cases accompanied by pendulous abdomen. Narcotics and narcotic salves, poultices, and so on, may be needed for the pains, and the stomach disturbances must be treated specially.

Intestinal Antisepsis.—To render innocuous the pathogenic organisms of the intestines, attempts have been made with drugs administered by the mouth or rectum. By the first method only those remedies are indicated that will pass through the stomach unchanged. Calomel is an agent of this class, but while serviceable in simple fermentative conditions, it is impracticable in infection of long duration. Bouchard has used large quantities of pulverized carbon in typhoid fever; naphthalin, iodoform, and salicylate of bismuth have also been recommended. These agents possess a certain antiseptic influence on the contents of the alimentary canal, but on the intestinal wall their action is *nil*, which fact receives confirmation in the

treatment of typhoid fever. The intestinal antiseptics require heroic administration, and aside from toxicity, they are absorbed in the stomach and altered in their chemical constitution before attaining the desired site. For this reason Cantani considers their exhibition per rectum as the proper method. Repeated experimental investigations show that intestinal irrigations may pass the valve of Bauhin and reach the upper part of the small intestines. The advantages arising from rectal injections are the use of large doses, direct action, and the avoidance of gastric irritation. There are also other advantages attending this method. The use of cold water reduces the temperature; whereas hot water is of benefit in cholera. Thorough lavage of the intestines is also attained and a certain quantity of bacteria and ptomaïnes are mechanically removed. Cantani considers carbolic acid and tannic acid to be the best intestinal antiseptics. Corrosive sublimate exerts no antiseptic action, owing to its union with albumin. Tannic acid fulfils a double indication for rational intestinal antisepsis; it paralyzes the vegetative activity of the bacteria and renders the ptomaïnes innocuous. The value of tannic acid in effecting the objects already mentioned has received abundant clinical proof in the treatment of intestinal catarrh accompanied with fermentation and true specific dysentery. If the injections of tannic acid prove too irritating, then the addition to the injection of about one litre of oil is of advantage. In typhoid fever these injections are of great value; meteorism and diarrhœa disappear, and the entire course of the disease is favorably influenced. In the incipiency of this disease, it is possible by injections of tannic acid to abort it. Cantani has also secured an abortive action in the beginning of typhoid with injections containing one gramme of the hydrochlorate of quinine, and from ten to fifty grammes of pure carbolic acid in two litres of cold water.—*Wiener medizinische Presse.*

Treatment of Heart Disease in Pregnancy and Labor.—In an article on this subject, Dr. Mackness makes the following suggestions: Cardiac tonics should be avoided as long as possible, and never be used until there are evident signs of failure of compensation; before this appears careful diet, moderate exercise, and the use of iron and arsenic are all that are required. As soon as compensation threatens to fail, cardiac tonics act well, as a rule (except in certain cases of mitral stenosis, where they often have no effect); the best of them is, perhaps, strophanthus in small doses (*e.g.*, ℥liiss. of the tincture every four hours). It must be remembered, however, that prolonged use of these drugs after compensation has been restored tends to do serious harm, since the hypertrophy of the heart which they produce is followed by degeneration of its muscular fibres. The dose may be increased if necessary, and then gradually diminished again until eventually it may, perhaps, be discontinued altogether for a time. Strophanthus is especially useful where there is continued vomiting due to gastric congestion, and its own tendency to produce sickness may be counteracted by giving it with tr. cardamom co. If the venous congestion become very marked during pregnancy or labor, bleeding may, in some cases, give relief, at any rate for a sufficient time to enable the labor to be completed, and so allow the heart to again regain its power. Nitrite of amyl might, perhaps, be of use here, just as it was found useful by Dr. Fraser Wright during the third stage of labor. Since the bearing-down pains tend to increase the venous engorgement, chloroform should be given as soon as ever they appear, and the second stage of labor should be reduced to the shortest possible time; the administration of chloroform should be continued until after the placenta has been delivered. When Dr. Wright recorded the case where he used nitrite of amyl in the syncope which followed the delivery of the placenta, some difficulty was found in understanding how it could relieve the engorgement of the heart. The following explanation seems to the author, however, to be a reasonable one: The sudden delivery of the placenta causes an extra amount of blood to be thrown into the right side of the heart, since the abdominal veins are already over-distended; nitrite of amyl dilates the arterioles and lowers the blood-pressure, so that more blood would tend to pass into the systemic veins and thus engorge the right side of the heart still further. The veins, however, are already over-distended, so that no more blood can enter them, and hence no harm can be done thus by the drug; but at the same time the nitrite of amyl dilates the *pulmonary* arterioles as well as those of the systemic circulation, and hence the flow of blood through the pulmonary vessels is made easier, and the right side of the heart can empty itself and get relief. Hence we see that the important action of the nitrite of amyl in these cases is upon the pulmonary, and not upon the systemic arterioles.—*Edinburgh Medical Journal*, August, 1890.

Is Cancer Contagious, too?—The fact that certain spots constitute apparent foci for the spread of cancerous disease has ere now been noted, though we are still completely in the dark as to the causes which underlie these vagaries of distribution. It is, however, only by systematic close observation that we can hope to solve the enigma and acquire the knowledge which alone will enable us to check the ravages of a terrible and implacable disease. Some observations made by Dr. Arnaudet in the little village of Saint Sylvestre-de-Cormeilles, in Normandy, are interesting in this respect. The village only numbers some four hundred inhabitants, but among them the deaths from cancer are four times more numerous than at Paris (14.88 as compared with 4.16 per hundred deaths). In the course of his inquiry into the causes of this special mortality, Dr. Arnaudet discovered that there were certain "cancer nests" which the theory of contagion could alone explain. The water supply of these people is drawn almost exclusively from surface ponds, but he observes that very little water is drunk, though it is used in the manufacture of cider. He shows on a chart that the malady developed itself successively along a line corresponding to the water supply supplying the ponds, and he is evidently strongly inclined to attribute the outbreak to the water, or, secondarily, to the cider. He subsequently extended his observations to four neighbouring communes, in all of which the proportion of deaths from cancer was largely in excess of the normal rate. This inequality of distribution seems to point to the existence of local causative conditions, the nature of which it is highly important to elucidate.—*Medical Press.*

The Influence of Drugs on Intestinal Absorption.—Some important observations have been made at Jena on this subject. Dogs and cats were the animals experimented on. Iodide of potassium and grape-sugar were drugs the absorption of which was tested, while the drugs given with a view of ascertaining their influence on the absorption of the preceding were quinine, opium, morphia, alcohol, glycerine, common salt, and Carlsbad Mühlbrunnen water. The experiments showed that quinine, opium, and morphia, even in great dilution, diminished the absorption. Morphia had the same effect even when it was not applied directly to the mucous membrane, but injected interstitially into the tissues. Alcohol increased absorption in concentration of from 0.5 per cent. to 2 per cent., in a more concentrated form it diminished absorption more and more. Glycerine was indifferent, chloride of sodium one-fourth per cent. increased the absorption, while Carlsbad water had no effect one way or the other. When iodide of potassium was given to people in aqueous, alcoholic, or glycerine solution, and drunk in milk or Carlsbad water, when moderate addition of alcohol was made the quantity passed in the urine within a given time was increased. Glycerine had the same effect as water, Carlsbad water increased the quantity excreted; milk, on the contrary, diminished it.—Berlin correspondent *Medical Press.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, September 27, 1890.

"WHAT IS THE PRESENT MEDICO-LEGAL STATUS OF THE ABDOMINAL SURGEON?"

THIS exceedingly pertinent question forms the subject of an admirable paper, read by Dr. W. W. Potter at the recent meeting of the American Medical Association. To some of our enthusiastic operators it will doubtless suggest ideas which are as disagreeable as they are novel, since they have hitherto cherished the belief that the laparotomist was a law unto himself. Accustomed to look upon abdominal section as an every-day procedure, attended with slight danger, they are inclined to assume, especially in hospital practice, that the patient and her friends should regard it with equal indifference. If the patient consents to the laparotomy no more formalities are thought necessary than in the case of a minor operation. The risks are touched upon lightly, if at all, and no doubt is expressed to her as to the inevitable cure.

To the scarred veteran of a hundred battles, as well as to the young soldier who has as yet only skirmished with the abdominal contents, we commend the warning contained in the paper under consideration. The author discusses at length the various medico-legal points which might be raised in court with regard to the skill of the operator, the conduct of the operation, and the after-treatment, and touches upon the question in which so much stress was laid in the famous case of the People of Kings County *vs.* Dr. Mary A. Dixon Jones, viz., whether a patient can insist upon being removed from a hospital at any time after she has submitted to abdominal section. He decides that "if sane she has the right to be removed at any time she may elect."

"She can go counter to, or in accord with, his advice as she may will."

But the questions which the writer emphasizes as of especial importance are these: Has the propriety of the operation been established "beyond reasonable doubt," and have the risks been clearly set forth to the patient and her legal guardians? Has her consent, and that of her friends, been obtained in a legal and binding manner? We fear that there are few laparotomists who would not be considerably embarrassed when asked if they always complied with these formalities before operation.

If the secret history of hospitals in New York alone were known, we would be astounded at the many narrow escapes which every institution has had from suits for malpractice, due not to want of skill on the part of the attending surgeons, but to their reckless disregard of ethical questions which assume such importance in private practice. A man who habitually underrates these is in constant danger. His brilliant reputation, his long series of successful operations will weigh lightly in the minds of a jury in comparison with a single unfortunate case. Like Banquo's ghost, the spectres of long-buried ovaries may rise "to push us from our seats." To the younger laparotomists this matter furnishes food for reflection. They might with propriety ask themselves, Is it safe to go on adding case to case with blind confidence in Fortune? Is it nice to exalt the operation above the patient? Does it pay to imperil reputation for the sake of adding to statistics?

A prominent specialist in a neighboring city was sued by a patient whose written consent to laparotomy he had obtained. He was vindicated only after he had been put to great expense and infinite annoyance, and after the case had been twice appealed. In the case of Dr. Jones every possible precaution had been taken. We venture to say that few surgeons in this, or any other country, would have been found so invulnerable beneath the fire of the prosecution.

No man who followed that memorable trial could fail to be reminded of the verse of Scripture, "If the righteous scarcely be saved, where shall the ungodly and the sinner appear?"

The remedy against legal persecution, to which every surgeon is liable, no matter how exalted may be his position, is a simple one. Unless the case is so urgent that delay is positively dangerous, no operation should be "rushed through" a day or two after a patient enters the hospital. The object of the operation, its risks, and the possibility that it may not be ultimately successful, should be frankly stated to the patient and to her friends by the operator himself, and not by the house-surgeon alone, as is sometimes done. It should be distinctly understood whether she elects to have both ovaries removed, if in the judgment of the operator this may seem necessary, or desires that one may be spared. Doubtless the safest plan is to obtain the consent of the patient and her guardians in writing; it should at least be given in the presence of several witnesses. The confident laparotomist frequently dispenses with all opinions save his own, regarding a consultation as a useless formality—an omission which might be seriously compromising in the court-room.

We have assumed that no flaw could be found in the operation or in the after-treatment, though these must be perfect indeed in order to bear the merciless criticism not alone of the laity, but of unfriendly medical witnesses. Remembering how rigid are the demands of modern abdominal surgery, the operator might well dread being called to account for an unsuccessful case in which he was conscious of having relaxed his usual vigilance. But what shall we say of the occasional operator, the recent graduate, who aspires to "do his first case?"

It may prove to be an expensive one if undertaken rashly, and without due consideration. He may be the unfortunate selected as the scape-goat to bear the sins of his more guilty elders. It is said to afford a certain satisfaction to a soldier under fire to reflect that a comparatively small proportion of the combatants are hit; but

the painful uncertainty as to his chances of joining the minority must prevent him from appreciating all the beauties of this theory. It is the same in our profession; no man knows when he will be the next victim. It behooves us to consider more carefully the rights of our humblest patients, and so doing to guard our own.

HOW TO INCREASE THE POPULATION IN FRANCE.

THE Paris Academy of Medicine has been lately listening to some learned and lengthy communications made by Dr. Lagneau, on the insignificant increase in the population of France. The author has suggested a number of measures to counteract this evil tendency in the life of modern France (*Bulletin de l'Académie de Médecine*).

1. To restrict celibacy and illegitimacy he advises that the numerous and onerous formalities exacted by the present marriage law should be greatly simplified, especially where the contracting parties are of different nationalities.

The limit of protection to the young girl should be extended from sixteen to twenty-one years of age, that is to say, to her majority. The seducer should be compelled to support his illegitimate child for a certain number of years, as provided by the laws of nearly all the European and American governments.

A special tax ought to be levied on bachelors over twenty-five or thirty years of age, the money so raised to go to the support of illegitimate children of unknown paternity. This suggestion is evidently based on the assumption that married men are all virtuous, and, if carried out, would doubtless lead to the establishment of Bachelors' Mutual Protective Associations.

The maternity hospitals should keep the young women much longer after confinement than they do at present, in order to prevent uterine affections, a frequent cause of subsequent sterility.

A better surveillance should be exercised over contagious diseases, and especially syphilis, so often the cause of infecundity and stillbirth.

The time spent in the army should be materially shortened by teaching the boys in the schools the art of war from the age of sixteen to seventeen.

2. To restrict sickness, mortality, and stillbirth he suggests that mothers' meetings or workrooms ought to be established, where the girl-mother, deprived of employment on account of her condition, can earn enough for the support of her child. If the mother is indigent, means should be given to her to enable her to nurse it, and not oblige her to hand it over to the administration.

He further urges that it is necessary to enforce the law in regard to adequate protection of infants.

To insure the carrying out of general sanitary measures, especially in the thickly populated districts, where tuberculosis and typhoid fever are rampant.

That rural camps for soldiers take the place of filthy city establishments.

To enlist for the colonies the indigenous population, and not the natives of France, who so readily succumb to yellow fever, cholera, typhoid fever, etc.

To counteract the steady drift of population from country to city.

The development of colonies is also advised, and with it the multiplication of commercial relations, which would tend to increase natality and incite to emigration.

The 1,115,214 foreigners permanently residing in France should be naturalized as promptly and as completely as possible, so that they would share the expenses of the country with the others.

While some of these measures are sensible and seem quite practicable, others savor strongly of Utopia. The latter class will hardly appeal to the intelligence of French legislators, who will doubtless be called upon to take action by the committee appointed by the Academy to examine anew this whole subject. It certainly must be of the utmost importance to contemporaneous France to prevent a further falling away of her population. A power that means to retain its place in modern Europe needs able-bodied citizens, both of the military and civilian order. As Bismarck once put it, in the European fish-pond of to-day there are so many hungry pikes that it will not answer to be a merely edible carp.

LESSONS IN ANTHROPOMETRY.

THE *Provincial Medical Journal* has lately given some attention and considerable space to the discussion of a letter with which it was favored, as to the "best way" of making young people tall. The inquirer is snubbed in the beginning of the discussion by being reminded that there is a passage in the Scriptures in which we are informed that a man cannot, by taking thought, add a cubit to his stature.

We are then informed that: "In spite of all the labors of Quetelet, De Quatrefages, Edmund Parkes, and fifty other authorities on anthropometrical science, very little is known as to the causes which make some men tall and others short. Climate is asserted to play an important part. This is very doubtful, for some of the tallest races inhabit very hot climates. The hill country of India produces huge men. Many of the African tribes are of colossal proportions, and the South Sea Islanders are conspicuous for their immense stature. The Japanese are shorter than the Chinese, the Chinese than the French, the French than the English, the English are smaller than the people of the United States, and the latter conspicuously inferior to the Tonga Islanders. Race is a very important factor, though the influence of race is very irregular in its operation, and may show itself in the absence of short men, or in a high average stature; and in one case known to us a lofty average stature is accompanied by an almost entire absence of tall men. Everyone must have noticed the high stature of the English upper classes, who are several inches taller than their poorer brethren. A glance at any regiment will enable most of the officers to be spotted at once, and any large gathering of the clergy is conspicuously taller than one of non-conformist ministers. Town residents average an inch less than the rural population, thus showing the part which bad air and insufficient exercise play. It is known with absolute certainty that lads sent to work at an early age in factories and shops, or, for that matter, even in the open air, have their growth affected, the cause of this being that the immature frame cannot resist the double strain of growth and work. A sufficiency of good food is

admitted to be an important factor in developing growth, and all outdoor muscular exercises are good, provided that the system is not overtaxed by hard work and long confinement."

The average heights of the men of various nations are quoted from the tables of M. de Quatrefages, giving the standard of the Bosjesmans as 4 feet 6 inches; Mincopees, 4 feet 8½ inches; Lapps, 5 feet; Cochin Chinese, 5 feet 2 inches; Peruvians, 5 feet 3 inches; Malays, 5 feet 3 inches; Native Australians, 5 feet 3½ inches; Cingalese, 5 feet 4 inches; the Southern French and the Chinese, 5 feet 4 inches; the French working classes generally, 5 feet 5½ inches; the Northern French and the Arabs, 5 feet 5½ inches; the Russians and the Austrians, 5 feet 6 inches; the Germans and the upper French classes, 5 feet 6½ inches, which is also, according to him, the average of the people of Madras, the Belgians, and the English; the Roumanians and the Kabyles, 5 feet 7 inches; and, though surely this must be a mistake, the Sepoys of Bengal reach 5 feet 8½ inches.

To come to what may be looked upon as tall races, the Polynesian and the Pitcairn Islanders are stated to average 5 feet 10 inches; the Ojibbeways, the Agaces of the Pampas, the Kaffirs, and the Marquesas Islanders reach 5 feet 11 inches; the New Zealanders touch 6 feet, while the Patagonians range from a minimum of 5 feet 10 inches to a maximum of 6 feet 4 inches. The highest place of all on the list is given to the Schiffer and the Tongatabuan Islanders, who have an average of 6 feet 4 inches.

Now these are interesting particulars, but it seems to us that the *Provincial Medical Journal* fails to suggest an answer to the question put by its correspondent. We are persuaded, too, that the inquirer is rather unceremoniously silenced by the scriptural quotation. Evidently the man wanted to add a cubit, more or less, to his son's stature, not his own; therefore he can hardly be declared to be forbidden by holy writ to exercise the faculties that he wants to. Moreover, the question is simply asked, "Which of you, by taking thought," etc.; and nowhere do we find it stated, "Thou shalt not take thought," or words to that effect. The reply that "race is a very important factor" is interesting, as well as concise, but it is a hopelessly disappointing answer to the question of the anxious father of a short son; for we are very certain that neither by taking thought nor by administering medicine can a fond father change the race of his son. If the son is already there, no answer in the world could be more discouraging. But in the very measure of the improbability that a man can lengthen either himself or his son to any considerable degree, it *is* probable that he can produce some little effect upon his great-grandson.

The solution to the original question may be found in certain observations, particularly among the negroes of the West Indies. It is well known that the climates of these islands are quite similar; but the soil and vegetation differ in very marked degree. Now, the pure negroes, who are descended through lines of several generations that have lived in the West Indies, differ greatly in feature, shape, and temperament from their prototypes in Africa. Again, it is observed that they differ particularly in size and shape from each other, in accordance with the nature of the soil of the islands from which they happen to hail. Those, for example, whose native soil is particularly calcareous, are tall, raw-boned, sturdy fellows, able to withstand great hardships. On the other hand, the natives of soils that are poor in calcium, show it in their bones, at least after a couple of generations. Their limbs are more gently modelled; they are more graceful of stature, less hardy, and of lower average height. It is hardly probable that much calcium would make a short boy tall; and we are quite sure that it would be worse than useless for a man whose ambition lay in the direction of tall sons to feed them on calcium. At the same time it is evident that the soil, and the food that is indigenous to it, are important factors in determining to what height the sons of man shall rise. And it is well to preach to over-anxious parents a little of the gospel of humble acquiescence in the decrees of a "divinity that shapes our ends."

THE RADICAL CURE OF HERNIA.

IT is a matter for regret that the name of him who first invented the truss is yet unknown, for he would deserve a place upon the highest pinnacle of fame. No single instrument or invention has perhaps added more to the sum of human comfort or increased so much the physical usefulness of man. We pay due honor to Paré and Lister, to Harvey, Jenner, Läennec, Morton, McDowell, and others of the immortals; but the man who invented the truss lies unknown and forgotten. It is, to be sure, just possible that the truss never was invented but "just growed," like Topsy, and this thought may afford some satisfaction to those who feel that they ought duly to honor those who have given great help to suffering humanity.

The history of the attempts to cure hernia reads much like that of the attempts to square the circle, find the philosopher's stone, or heal up the pus-soaked cavities of old tuberculous lungs. Not but that some progress has been made. The ancient methods associated with the names of Bonnet, Jobert, Belmas, Pirogoff, Wutzer, Wood, and others, are at least abandoned, and surgeons have stopped trying to fight the enemy in the dark. The open, direct methods associated with the names of Gross, Socin, Czerny, Macewen, and many distinguished American operators, are now admitted to be the only proper ones to pursue.

These methods are attended with a low mortality-rate, and apparently with cure in perhaps more than half the cases. In mild degrees of hernia the injection method has apparently also given good results.

A recent paper by Dr. William T. Bull (*Medical News*, July 5, 1889) shows, however, that a certain and safe cure for hernia has not yet been found, and that a more thorough study of the subsequent history of reported "cures" would show a larger percentage of relapses than has been supposed.

Dr. Bull reports the results of operation upon one hundred and thirty-four cases. These he divides into four series.

Series one, operated upon by the method of ligature and excision of sac, consisted of forty cases, twenty-two of which have been traced. Among the twenty-two were eight relapses.

Series two, operated upon by "the method of ligature,

excision, and suture" of the ring, consisted of thirty-nine cases, twenty of which have been traced. Among the twenty were eight relapses.

Series three, operated upon by "the method of ligature, excision, and suture of the canal," consisted of thirty-nine cases, twenty of which have been traced. Among the twenty were eleven relapses. The fourth series consisted of sixteen cases, occurring in children, with five relapses within a year.

With regard to the "newer operations" the writer has this to say:

"Each one has its earnest advocate; with a large number of theoretical advantages, or any brief period of observation, I doubt if any, subjected to the same continued scrutiny that my methods have been, will show better results. I am becoming confirmed in that judgment day by day, in witnessing the relapsed cases that apply for trusses to the Hospital for Ruptured and Crippled. Between January and October, 1889, there were forty-five such cases, and in the past nine months there have been fully as many more. Of the forty-five patients above mentioned, twenty-two have been further investigated. Of these, eleven had been operated on by McBurney's method, the shortest period of relapse being one month, the longest eleven months. Two had been subjected to treatment by injection, according to Heaton, with relapse at two months and eighteen months. In four operated on by ligature and excision, recurrence occurred on the average at the end of one year. One, by Macewen's method, recurred in seven months. One relapse took place four years after ligation and excision of the sac with suture of the external ring. Another five years after treatment by purse-string suture and inversion of the sac."

From the above we can infer rightly that the radical operation for hernia is not a thing to be indiscriminately applied. Its dangers have been much lessened, its results made more satisfactory, but the great majority of cases of hernia must, after all, trust to the man who invented the truss.

News of the Week.

The Health Board and the Medical Record Right Notwithstanding.—The following letter is one of many we have received of late referring to the health statistics published weekly in the MEDICAL RECORD and is presented to our readers for the purpose of answering the criticism that it contains. The reports are officially furnished us by the Health Board, and are so printed without question, and we are pleased to note that the apparent discrepancies in the returns are so satisfactorily explained:

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Under head of "Medical Items; Weekly Statement" in the RECORD you made more deaths than cases in seven instances in the August numbers. Almost every table has an error of this kind. This looks bad for the leading medical journal of America. Look your files for past years over and prove what I say. More than half your tables are incorrect. Very truly,

A. C. FOLLETT.

HURON, S. D., September 12, 1890.

This was duly forwarded to the Health Department for an explanation and the following was promptly sent to us:

HEALTH DEPARTMENT,
DIVISION OF CONTAGIOUS DISEASES.
NEW YORK, September 24, 1890.

TO THE EDITOR OF THE MEDICAL RECORD.

DEAR SIR: Dr. Bryant has handed me the criticism made by one of your subscribers on the weekly report of contagious diseases published in your columns and furnished you by the Health Department.

The criticism states, "You made more deaths than cases in seven instances in the August numbers," and that "almost every table has an error of this kind." The matter is easily explained. The number of cases *reported* to the Health Department during the week ending each Saturday is given in a column entitled "Cases," and the number of deaths *occurring* during the same period in a column entitled "Deaths."

Among the contagious diseases will be found pertussis. The Board of Health does not enforce the reporting of this disease, consequently very few cases of it are reported, *but all the deaths from it are entered in the Bureau of Vital Statistics.* This is mainly the cause of the discrepancy. Whooping-cough has been very prevalent this summer and many deaths from this disease have occurred. Your correspondent writes as though he thought the "deaths" occurred among "cases" in the parallel column of the same table. This, of course, is erroneous. The deaths are distributed among all the existing cases. Those "cases" that have been sick for two, three, or even more weeks may die, and a number of deaths may occur at a time when there are but few new cases. Take for example a case in point. John Smith is reported as having cerebro-spinal meningitis during the week ending September 13th, and during the week ending September 20th no cases are reported but during the latter week John Smith dies. Here we have an apparent discrepancy, no cases and one death.

Your readers may have been puzzled at occasionally reading deaths from small-pox and typhus fever when no cases had been reported for many weeks. These were quarantine cases that were intercepted by the health officer of the port and sent to North Brother Island. Formerly they were not reported to the Division for Contagious Diseases, but deaths among them were certified to the Bureau of Vital Statistics. This is now changed, all cases from quarantine are reported as soon as they are landed on North Brother Island.

Yours respectfully,

CYRUS EDSON, M.D.,
Chief Inspector.

Alcohol and Tea.—Dr. Kraepolin, as the result of experiments upon the psychical effects of alcohol and tea, finds that the former substance in moderate doses hastens volitional acts, but does not hasten deliberative and associative processes. The purely reasoning processes, in fact, are lessened by alcohol. Tea, on the other hand, does not hasten volitional acts but does accelerate purely intellectual processes of association and reasoning.

Potassium Tellurate is the latest remedy said to be useful in the night-sweats of phthisis.

To Abort a Paroxysm of Whooping-cough.—Dr. Nägeli says that an attack of coughing in pertussis can be cut short by drawing the lower jaw downward and forward. Parents can readily be taught to make the simple manœuvre, which the author claims is always effective. The regular suppression of the paroxysms affects favorably, he says, the course and duration of the disease, and also prevents many of the complications caused by the violent efforts. The same procedure has been found effectual in restraining spasmodic coughing fits proceeding from other causes.—*Revue des Sciences Médicales.*

Acquired Color-blindness.—Dr. Thompson, writing in the *Journal of Railway Surgeons*, says that acquired color-blindness is often the result of the abuse of alcohol and tobacco.

Soft-handed Sons of Toil is what Dr. Oliver Wendell Holmes calls the members of the medical profession.

A Death from Hydrophobia is reported to have occurred on September 8, 1890, at Philadelphia.

The State Commission on Lunacy.—At a meeting of the New York State Commission on Lunacy, September 3d, the State was divided into insane-asylum districts, in accordance with the provisions of the State Care of Insane act, passed at the last session of the Legislature. The districts proposed are as follows, each comprising from six to ten counties: Utica District, Hudson River District, Middletown District, Willard District, Binghamton District, St. Lawrence District, and Buffalo District. Until such time as the State assumes full charge of the insane, the various counties will be required to pay for their own insane at the rate of $4.25 per week for all patients kept in hospital for three years or less, and $2.50 per week for those maintained for any period exceeding three years. It has been the practice in most State Asylums to take private patients who, by paying considerable sums, received special attention, private rooms, etc. The money obtained from these patients is used to promote the general comfort of the poorer class. The present State Commission have, we are informed, decided to abolish this system and to compel all patients to be treated alike.

The Railway Brotherhood Hospital Association was chartered at Springfield recently. Its object is to establish ultimately hospitals for the sole benefit of railroad men at convenient points between New York and San Francisco. It is expected that all the railroad brotherhoods will eventually come in and give the scheme their financial and moral support. A hospital in this city has already been secured.—*Medical News.*

Chicago has one thousand six hundred and twenty-one physicians, including all schools.

The Chicago Academy of Medicine is the name of a new medical society recently organized and incorporated.

A Chinese Medicine Company.—A curious fraud has been detected in Milwaukee, where a warrant was issued authorizing the arrest of Joseph A. Wilt, Dr. C. A. Jansen, and Jim Lee, alias Gun Wa, on a complaint sworn out by a city detective, charging them with conspiracy to defraud, obtaining money under false pretenses, unlawful assumption of the title of "doctor," violation of the pharmacy statute, and circulation of obscene literature. Gun Wa is an alleged Chinese physician and graduate of several Chinese medical colleges, who professes to cure all diseases known to man. Wilt is his manager and Dr. Jansen interpreter. Their office was established in July last and has done an enormous business. Wilt acted as manager and interpreter until March last, when the increase of business was such that it was found necessary to procure help and Dr. Jansen was brought on from Chicago to act as interpreter. An investigation was set afoot and it was found that the alleged doctor was a Chinese laundryman sent on from Denver by Frank L. Smith, head of the Gun Wa company, which has branches in Denver, Kansas City, Detroit, Indianapolis, and Milwaukee, and that neither Wilt nor Jansen, who acted as interpreters, could speak a word of Chinese. Since opening the office here a year ago three Chinamen have played the part of Gun Wa.—*Boston Medical and Surgical Journal.*

A Case of Self Mutilation.—Dr. E. M. Sutton reports the following case in the *Medical Age* of June 25, 1890. On May 30, 1890, a young married man, twenty-nine years of age, and the father of two children, secured a razor at midnight and deliberately ablated testes and penis. The only surgical aid given was to arrest hemorrhage, and an iodoform dressing. The wound has been dressed daily, and, although in healthy condition, seems to have made but little progress. The stump of penis is about an inch long, the skin retracted from it; the cut surface represents a typical cross-section, and exhibits but slow intent to heal, probably on account of the peculiar blood-supply of the corpora cavernosa and corpus spongiosum. It has been suggested to shave the pubes, freshen and unite the edges of the skin over the stump, and to leave a catheter in the urethra until healing takes place. The patient is of nervous temperament, and the unfortunate husband of a woman endowed with a gluttonish venereal appetite. He finally broke down completely. His wife twitted him as to his inability to satisfy her, and left him, emaciated and haggard, for stronger men. This preyed upon his mind till he obeyed the insane impulse to rid himself of the original cause of his condition.

The Third Italian Congress of Internal Medicine will be held in Rome on October 20th, 21st, 22d, and 23d. The Committee, presided over by Dr. Baccelli, and composed of Professors Cantani, Murri, Maragliano, and Rossoni, have decided that the following shall be the topics of special discussion: 1. The Etiology and Treatment of Pleurisy. 2. The Pathology of the Blood. 3. The Varieties of Polyneuritis.

Post-graduate Instruction at Johns Hopkins University.—It is announced that courses of instruction in medicine, surgery, pathology, and gynecology will be given by members of the medical faculty of Johns Hopkins University during the coming year.

Another Leper Colony.—A comparison of statistics regarding lepers in India during the thirty years, 1851–81, shows that their number has been increasing at the rate of about thirty thousand every ten years. During the last ten years the rate of increase is supposed to have been higher. It is rumored that steps will be taken to found a leper colony in one of the uninhabited islands in the Indian Ocean.

An Imperial Iridectomy.—The chief consort of the Shah of Persia has been residing at Vienna for some time past in order to undergo treatment for primary glaucoma, from which she has been suffering. The disease began four years ago in the right eye, and had run on to complete destruction, and the journey was undertaken in the hope of preserving the left eye from a similar fate. Iridectomy was performed by Professors Mauthner and Fuchs, and, so far, with every prospect of affording relief. The medical men are represented to have had a good deal of trouble in obtaining for their patient the necessary rest and quiet, in consequence of the affectionate officiousness of the *suite*, which consists of four ladies, three gentlemen, a physician, and, last, but not least, four eunuchs, all of whom are animated by a tender but embarrassing curiosity to know how things are going on, and are not to be deterred from invading the sick lady's chamber in quest of the latest information.—*Medical Press.*

Prevention of Conception.—The *Medical Press*, July 30, 1890, complains that in England the announcement of a marriage or a birth is followed by confidential letters offering, in exchange for the sum of one guinea, information bearing on the means of preventing any addition to the family circle.

What Are Ears for?—Ewald has made some experiments upon pigeons, which would seem to throw doubt upon the necessity of the ear as an organ of hearing. He removed the entire auditory apparatus, leaving only the end of the auditory nerve, and yet the animals experimented upon evidently had their hearing preserved in fair degree.

Why He Renounced Vegetarianism.—Dr. Alanus, the former leader of the vegetarians in Germany, has renounced his faith, and resumed the use of animal food. In a letter written to a local paper, he gives the reasons for his apostacy. He had lived for a long time, he said, on a purely vegetable diet without experiencing any ill effects, feeling no worse and no better than he had formerly while living as the rest of mankind. One day, however, he found that his arteries were apparently becoming atheromatous. He was unable to account for this, as he was not a drinking man, and was still under forty years of age. Finally he came across a statement by Monin, to the effect that abstinence from animal food was a fertile cause of atheroma. He could hardly have been much of a student of dietetics not to have come across that theory until his own arteries had become diseased. There is nothing like taking comfort out of everything, however, and he now consoles himself with the remark that he has "become richer by one experience, which has shown me that one single brutal fact can knock down the most beautiful theoretical building."

Sudden Death Following a Vaginal Injection.—Dr. Cheeves Bevill, of Winfield, Ark., reports the case of a woman, about twenty-five years of age, who was in the fifth month of pregnancy, and was suffering from prolapse of the uterus. A physician had ordered an injection of lead-water or alum, and this was given by the husband of the woman. After about two ounces of the wash had been thrown into the vagina the patient raised herself up, exclaiming, "I feel so funny," and sank back and died.

A Philanthropic Family.—Three brothers in Moscow Peter, Alexander, and Basil Bakhrushin, who not long ago built at their own expense a hospital for the treatment of chronic diseases, have just given the sum of 350,000 rubles (about $260,000) for the establishment of a home for incurables. Of this sum $75,000 will be employed in the construction of the building, while the balance is to be invested and the interest used to pay the running expenses of the home. The number of inmates provided for will be one hundred and fifty, and their ranks are to be recruited from former patients in the hospital for chronic diseases whom the physicians have pronounced incurable.

The Sale of Antipyrine.—Some idea may be obtained of the immense quantity of this drug which is consumed annually, when it is stated that the net receipts during 1889 of the firm which manufactures it amounted to 5,437,032 marks, or nearly $1,400,000.

Bacteria in Hail-stones.—Dr. Fontin has examined the water from melted hail-stones, and found it to contain a number of varieties of bacteria, among them being the already known bacillus mycoides, liquefaciens, luteus, sarcina lutex, and aurantiaca. Besides these, cultures of four other kinds were obtained, one of which was found by experiments on animals to be pathogenic. It is suggested that, since hail, snow, and rain are found to contain pathogenic bacteria, there may be a specific disease that can be the direct result of being wet through in a storm.

Late Pregnancy.—A writer in the *Medical World* reports the case of a woman, seventy-one years old, who gave birth to a healthy and well-developed boy.

Do Quakeresses Have Nasal Catarrh?—Dr. D. Hayes Agnew says that he never saw a case of nasal catarrh among the female members of the community of Friends, and he attributes their immunity to the protection afforded by their peculiar bonnets.

One More Glory for Chicago.—Since the opening of the Pasteur Institute in Chicago the residents of that progressive town are beginning to boast, with some reason perhaps, that the place is becoming a great hydrophobic centre. It remains now for St. Louis and Kansas City to get Pasteur Institutes, and see if they cannot also breed a few cases of lyssophobia.

Supposed to be a Maternal Impression.—Dr. Grace Danforth has reported a case in which a child was the exact image of a gentleman who sat opposite the mother at meal-time, and was not her husband. There was no question of paternity, the doctor thought, neither was there any reason to believe the woman harbored any feeling toward her vis-à-vis which she would not have been perfectly willing to acknowledge to her husband. The young man was red-headed and freckled.

Atropine as an Antidote to Cyanide of Potassium.—A case is reported in the *Deutsche Medicinal-Zeitung* of a man who swallowed with suicidal intent a quantity of cyanide of potassium together with a solution of atropine. He was taken to the hospital, but received no special treatment, and was perfectly well the following day.

Typhoid Fever in Richmond.—During the past summer typhoid fever has been very prevalent in and around Richmond, Va. The Academy of Medicine and Surgery of that city at its last meeting appointed a committee to investigate as far as possible the number of cases, the localities in which the disease prevails, and to propose such measures as may be beneficial to the public and the profession, in the way of preventing its further spread.

An Epidemic of Tetanus.—A number of the inhabitants of Friedburg, Silesia, have been attacked by a disease resembling tetanus, in which the muscles affected are chiefly those of respiration.

In Favor of the Decimal System.—The American Pharmaceutical Association, at its annual meeting held recently at Old Point Comfort, drafted a series of resolutions calling upon Congress to adopt the decimal system of weights and measures in all Governmental transactions, and for purposes of foreign and inter-State commerce, to take effect on the date of the landing of Christopher Columbus on this continent. The customary weights and measures used in the United States the preamble to the resolutions asserts to be arbitrary, unsystematic, inconvenient, and indefinite, governed partly by English law, partly by tradition, and partly by chance.

A New Cure for Rabies.—Somebody has lately put forward a new theory of hydrophobia, which has the merit of simplicity, at least, and opens the way to a most easy method of treatment. Under an attack of rabies, this genius asserts, the nasal artery becomes unnaturally distended, so much so that breathing becomes at times very difficult. The same artery, he says, passes down the back of the neck and swelling may be noticed at that point. His plan is, therefore, to stop the circulation in this artery at the base of the brain and lance the same artery where it passes through the nose. He allows as much blood to pass out as the patient's constitutional strength will allow, and then closes the aperture made by the incision. Thus does the art of healing make giant strides in these latter days.

Dr. Marcello Hutchinson, the First Assistant Physician at the State Lunatic Hospital at Taunton, has been chosen Superintendent of the Massachusetts Hospital for Dipsomaniacs and Inebriates.

Drawing the Color Line.—A little excitement was caused recently in the Training School for Nurses at the Philadelphia Hospital by the admission of a colored pupil from Oberlin, O. Some of the white pupils objected to her presence among them and drew up a protest against her admission, but were persuaded to withdraw their opposition, and now harmony once more reigns.

A New Hospital in Macon.—An effort is being made in Macon, Ga., to found a free hospital in that city. The "King's Daughters" have raised the sum of $1,500 as a nucleus, and this has aroused general interest in the undertaking. Subscription lists have been prepared, and the promoters of the object have little doubt of ultimate success.

The New York Pathological Society will hold its meetings in the future in the new building of the Academy of Medicine, No. 19 West Forty-third Street.

The Doctors are home again, and the Berlin Congress has passed into history.

Unhealthy Station Houses.—The Board of Health in Albany has had an inspection made of the police stations in that city, as a result of which many have been found to be in a decidedly unsanitary condition.

The Use and Abuse of Pepsin.—The following are the conclusions of a paper read by Dr. Gustavus Elliot at the last meeting of the Connecticut State Medical Society: 1. Patients suffering temporarily from the ingestion of an excessive amount of nitrogenized food may obtain relief by taking pepsin, but it is very much more important that they should be warned of the evil consequences which will result from the repetition of such overindulgence. 2. When annoying symptoms are the result of imperfect digestion of nitrogenized food, which has been taken in moderate amount, and when this is due to a deficiency in the quantity or quality of the gastric juice, it is more important to endeavor to increase the secretion of the gastric juice, than to try to supplement the deficiency by the administration of an artificial pepsin. 3. In acute or chronic indigestion, or dyspepsia, pepsin is sometimes of great value for the immediate and transient relief of distressing and debilitating symptoms, while other measures are being employed to restore the digestion to its normal activity. 4. During the course of, and during convalescence from, certain acute diseases, as well as in some chronic diseases, characterized by transient weakness of the digestion and defective assimilation, pepsin is of considerable value in assisting to increase the assimilation of food. 5. When used for the cure of chronic indigestion and dyspepsia, pepsin is a snare and a delusion, giving a transient feeling of comfort, without increasing the digestive power of the stomach.

Dr. Agnew Once a Shopkeeper.—It is related of Dr. D. Hayes Agnew, that many years ago, after he had worked in vain for two or three years to get enough medical practice to support him, he dropped physic in disgust and went to keeping store at Newton, Delaware County. There, in a small shop, he sold tarred rope, sickles, sunbonnets, molasses, and rakes, nails, and flour, and fish-nets. But his passion for surgery and medicine made storekeeping galling, he gave it up, risked starvation in a desperate battle with fortune again, and won.

No Doctor Needed.—A wayfarer lately, in a primitive part of Kent, inquired of a rustic whom he met whether there was a doctor near, as he had hurt his foot and wanted it looked to. "Doctor, sir?" said the man, with a knowing shake of his head. "There ain't no such thing about here. If we sprains ourselves, or has the toothache, we goes to the blacksmith; but, thank God, we all dies natural deaths."

"Archivos Internacionales de Laringología, Otología y Rinología," is the name of a bimonthly journal recently established under the editorial management of Dr. Ricardo Botey, of Barcelona, printed in Spanish though published in Paris, and is intended to be the organ of specialists in diseases of the upper respiratory passages in either Europe or America, whose mother-tongue is Castilian. The first few numbers of the journal present a very creditable appearance.

Society Reports.

BRITISH MEDICAL ASSOCIATION.

Fifty-eighth Annual Meeting, held at Birmingham, England, July 29, 30, 31, and August 1, 1890.

(From our Special Correspondent.)

(Continued from page 334.)

SECTION IN OBSTETRICS.

FIRST DAY, WEDNESDAY, JULY 30TH.

Management of Tedious Labor.—DR. PLAYFAIR opened a discussion on "Modern Methods of Managing Lingering Labor." After alluding to the older methods which had fallen into disuse, as tartar emetic, bleeding, belladonna, etc., and mentioning the case of the Princess Charlotte as illustrating the great dread of the use of the forceps which prevailed at that time, the unfortunate princess lying with the head almost on the perineum for hours, when she could have been safely and easily delivered at any time with the forceps, he enumerated the modern methods. He considered chloral hydrate far superior to chloroform or opium in cases of rigid cervix, and strongly urged its use in doses of fifteen to twenty grains, repeated if necessary. He spoke strongly of the good effect of pressure on the uterus through the abdominal wall. He remarked that he had brought nothing forward striking or new, but wished to elicit the opinions of members on the modes now in use.

DR. WILLIAM WALKER advocated the use of opium, and spoke of its value in allowing the practitioner a night's rest.

DR. ROBERT BELL, of Glasgow, spoke of strychnine and gelseminum as being useful.

DR. MURDOCH CAMERON, of Glasgow, advised friction to the uterus in preference to pressure, and urged the importance of studying the position of the fœtal head. He mentioned a case in which tr. opii, 3 j., given in mistake for ergot, accelerated labor, and produced rapid delivery.

DR. WILLIAM DONOVAN, of Birmingham, criticised the large dose, fifteen grains quinine, given by Dr. Playfair.

DR. AUST LAWRENCE, of Bristol, spoke of the value of hot-water injections in rigid cervix. Considered ergot in small doses useful to induce typical uterine contraction, especially where the uterus had been over-distended. He also mentioned that alterations in the position of the woman often accelerated second stage.

DR. CULLINGWORTH, of London, considered that the disposition to interfere in first stage decreased as men got older. Opium was in his opinion the best remedy in lingering first stage; given freely it diminishes suffering, and is of help, when the pains are useless, by diminishing irritability; he would urge the importance of distinguishing between high and low forceps operations; injury in high operations underestimated, lacerations of vagina often caused by slipping of blades from head, and these allowed absorption of septic matter. Mentioned that in Egypt, where forceps are never used, vesico-vaginal fistulæ are common and lacerations of perineum rare—the former being much more commonly caused by prolonged pressure of fœtal head than by forceps.

MR. C. J. WRIGHT, of Leeds, considered chloroform not advisable in first stage, but useful in second; mentioned use of cocaine made into pessaries with cacao butter, or of incision of the edge of perineum by two lateral cuts. Older writers advised waiting six hours after feeling head and ears before applying forceps. Mentioned that forceps were often useful as a "brake" power.

DR. LEITH NAPIER, of London, said there was a difference between surgical anæsthesia and that needed in labor. He advised the application of cocaine on pledgets of wool. He had found injections of hot water useful in cases of rigid cervix. In exceptional cases he advised incising the os. He suggested antipyrin in fifteen-grain doses as a substitute for chloroform, chloral, etc.

DR. SMILY, of Rotunda Hospital, Dublin, dwelt on the importance of limiting vaginal examination; he found vaginal examination always attended by rise of temperature. The principle at present in vogue at the Rotunda was one of non-interference.

DR. MORE MADDEN, of Dublin, advocated the use of ergot in management of second stage when delay was due to inertia, giving three to four drachms at one dose during this stage, and hypodermic injection of ergotine as well. He ridiculed the dangers ascribed to meddlesomeness in midwifery.

DR. BENINGTON, of Newcastle-on-Tyne, agreed with Dr. Playfair's praise of chloral.

DR. EDIS, of London, urged the importance of taking a broad view of the case, studying each case on its own merits and acting accordingly. He advised pressure on the uterus during a pain. He also spoke of the importance of putting the head in a favorable position in one oblique diameter.

DR. GORDON, of U. S. A., asked Dr. Playfair's opinion of the value to be attached to the action of the voluntary muscles in labor, *i.e.*, the advantage of the advice to "bear down."

DR. A. J. SMITH, of Dublin, drew a distinction between hastening and inducing labor. For rigidity of the cervix he used vaginal injections of hot water. In the second stage he considered the indications for interference to be: *Maternal*—quick pulse, vomiting, rise of temperature. *Fœtal*—passage of meconium, irregularity of fœtal heart.

DR. BYERS, of Belfast, also found that the temperature rose after frequent vaginal examinations. He urged importance of antiseptic precautions and of employing only trained nurses. He advocated warm baths in rigid cervix, etc. He would not use ergot before the birth of the child, except when post-partum hemorrhage was probable. He used chloroform in nervous women to allay excitability.

DR. HEYWOOD SMITH, of London, mentioned that Polish midwives smeared the cervix with belladonna to induce dilatation. He spoke of the value of the binder in hastening labor.

DR. CLARK, of Massachusetts, U. S. A., asked Dr. Playfair's opinion on comparative advantages of forceps and version in lingering labor.

DR. PLAYFAIR, in closing the discussion, said that he was pleased to find so much agreement with the views he had expressed.

In reference to the use of opium, he had often found that large doses had a good effect by their reviving power in severe cases of post-partum hemorrhage; he thought that the same dose might in one case produce quick delivery from its stimulating effect, and in another delay from its sedative action.

DR. BARBOUR, of Edinburgh, then read a paper on recent results from the study of labor, especially of the second stage, by means of frozen sections and casts.

The sections were beautifully prepared, and there were casts both of the genital tract and of the fœtus.

The principal point established by the researches was the distinct division of the genital tract, during labor, into two portions, viz., an upper, formed by the upper uterine zone; the lower, formed by the lower uterine zone, the cervix, and vagina, the line of demarcation being quite distinct at the internal contraction (Bandl's ring). The muscular tissue of the upper part alone had any propulsive power over the fœtus, so that when it had passed entirely into the lower portion propulsion was only secured by the action of the voluntary muscles.

DR. BERRY HART, of Edinburgh, congratulated Dr. Barbour on the great scientific interest of his paper, and the extreme alue of his contributions to obstetrical science. He suggested that reproductions of the sections should be distributed to medical schools for educational purposes.

DR. WALLACE, of Manchester, in alluding to the casts of the fœtus which presented by the breech, remarked that

the arm was immediately below the chin, and alluded to the importance of this in producing flexion.

Dr. Aymard, of Ipswich, then showed an axis-pressure binder devised by himself for use in prolonged second stage.

Dr. Aveling, of London, read a paper entitled "Are Midwives to be Abolished or Bettered?" He gave statistics of the number of labors which it was calculated were attended by midwives, and advocated the "bettering" of midwives, and approved the amended bill bearing on the subject now before Parliament.

Dr. Rentoul, of Liverpool, read a paper entitled "On the Registration of Midwives and their Power to Practise Independently of the Profession," in which he strongly opposed the present bill on the ground that it did not sufficiently limit their duties, and would result in their doing work which should properly be done by the medical man.

Dr. Cameron thought that they should be registered.

Dr. Aust Lawrence, of Bristol, and Mr. Hallwright, of Birmingham, agreed with Dr. Aveling. Mr. Atkinson, of Leeds, agreed with Dr. Rentoul.

Second Day, Thursday, July 31st.

Gonorrhœa as a Cause of Pelvic Inflammation.—Dr. Granville Bantock opened a discussion on "The Importance of Gonorrhœa as a Cause of Inflammation of the Pelvic Organs." In his opening remarks he mentioned the views of Noeggerath, Neissler, and Sinclair on the matter, severely criticising them, and stating his opinion that they had considerably exaggerated the frequency with which evil results followed gonorrhœa in the female, and ridiculing the idea of the "old and decrepit gonococcus" being awakened into new life after a period of inactivity. He stated his own disagreement with the view of Dr. Sinclair, that gonorrhœa might affect the uterus and appendages without any micturition trouble having been noticed.

He did not believe that gonorrhœa was a frequent cause of sterility in women, and had never met with a case of inflammation of the pelvic organs unmistakably due to gonorrhœa.

In conclusion he summed up his views in the following words:

"My opinion, then—an opinion founded on my own observation—is that the importance of gonorrhœa consists in the fact that in a few or limited number of cases it seems to be capable of producing most serious symptoms—rarely, however, terminating in death—and that this importance is diminished by the fact that such cases are comparatively rare."

Dr. Morison, of Newcastle-on-Tyne, related the case of a man who married six months after an attack of gonorrhœa. Three weeks after marriage his wife had an acute attack of pelvic peritonitis, from which she recovered, but still had recurrent attacks. In his opinion pelvic peritonitis was a more common sequel than distinct disease of the tubes. He also related a case of fatal arachnitis, due to pyæmia, the result of gonorrhœa. He believed gonorrhœa was a much more serious complaint than Dr. Bantock imagined.

Dr. Braithwaite, of Leeds, considered that the spreading of gonorrhœa to uterus and tubes depended on the degree of patency of the cervical canal. He believed that the recurrent attacks of pelvic peritonitis were caused by periodical discharge of pus from the outer ends of the Fallopian tubes, and when the tubes were closed at the outer end similar discharges sometimes took place into the uterus.

Mr. Noble Smith, of London, in his experience as house surgeon at the Female Lock Hospital, had found no cases of peritonitis following gonorrhœa.

Dr. Inglis Parsons, of London, asked what Noeggerath's supporters meant by latent gonorrhœa? He had one or two undoubted cases of gonorrhœa having inflammation of vulva and urethra each week in his out-patient practice, but had seen no evil results follow.

Dr. Heywood Smith, of London, said he would like to know why the inflammation expended itself on the urethra and vulva rather than on the os uteri. He related the case of a mother of eight children who contracted undoubted gonorrhœa from her husband, which was followed by peritonitis.

Dr. Leith Napier, of London, considered Dr. Bantock had minimized the evil results of gonorrhœa. In his opinion, excluding parturition, gonorrhœa was one of the most frequent causes of inflammation of the tubes, etc. He related the case of a husband suffering from syphilis, who had not infected his wife, though having intercourse while he had a chancre, and from that argued that because one case did not do it, it was no proof that it could not be done, which was the line of argument pursued by some speakers in reference to the effect of gonorrhœa.

Dr. Wilson, of Baltimore, U. S. A., said he could not recall a single case in which tubular or ovarian inflammation had followed gonorrhœa. He related three cases of undoubted gonorrhœa not followed by any symptoms.

Dr. James Murphy, of Sunderland, thought Dr. Bantock had minimized its importance, and related a case in which pyosalpinx clearly followed gonorrhœa.

Dr. Gordon, of Portland, U. S. A., did not consider urethral trouble common in gonorrhœa in females. He drew attention to injuries (from operations on cervix, etc.) as a much more common cause of inflammation of the tubes and ovaries, and quoted Dr. Wylie, of New York, as a believer in the potency of gonorrhœa as a cause. He drew attention to cases of non-specific urethritis in man, and pointed out the difficulty in some cases of diagnosing the cause of that condition.

Dr. Cullingworth, of London, held opposite views to Dr. Bantock. He quoted the case of a young girl who had gonorrhœa, followed by ovaritis, first on one side and then on the other. Abdominal section was performed. On one side the outer portion of the Fallopian tube contained pus; toward its inner end was a cicatrix, through which pus had evidently burst into the peritoneum, setting up violent peritonitis, which was thought to be an attack of ovaritis. On the other side the outer end of the tube was expanded, forming a hydrosalpinx, and the inner formed a pyosalpinx, which was on the point of bursting into the peritoneum. He believed that Dr. Bantock would soon meet with cases which would convince him that his views were wrong; but quite agreed that the subject had been exaggerated. He attached no importance to the negative evidence which had been brought forward. He also pointed out the frequency with which a pyosalpinx formed without any pain having been felt.

Dr. Edis, of London, held an entirely contrary view to Dr. Bantock, and said he had met with numerous cases which clearly bore out the fact that a gonorrhœa caused these inflammations. He pointed out how often symptoms came on soon after marriage, no other cause being possible.

The President (Dr. Savage) said he sided with Drs. Cullingworth and Edis, as he saw many cases bearing out their opinions. He advocated the removal of the appendages as the only proper cure for those cases of pyosalpinx, etc.

Dr. Bantock, in reply, said that he had not attempted to minimize severity of result, but had admitted it on question of frequency. He considered gonorrhœa a serious disease, and would never look on it as otherwise. He agreed with Dr. Cullingworth as to the frequency of absence of pain in pyosalpinx. He did not think vaginitis a common symptom of gonorrhœa, the gonococcus was said to be unable to find a resting-place in the vagina.

Dr. Auvard, of Paris, sent a communication which was read by the Secretary, on "An International Nomenclature of the Presentations of the Fœtus," which was illustrated by diagrams. He pointed out that the fœtus in

utero consisted of two ovoids, the "cephalic" or head, and the "cormic" or body (κορμος, trunk); each ovoid might present by its large extremity, small extremity, or intermediate part, and the presentations in this way corresponded thus: Presentation of large extremity, cephalic ovoid, occiput; cormic ovoid, breech. Presentation of small extremity, cephalic ovoid, chin; cormic ovoid, thorax, including shoulder presentation. Intermediate part, cephalic ovoid, forehead; cormic ovoid, back or abdomen. These presentations corresponded in point of frequency.

No discussion followed this paper.

Dr. Edis, of London, read a paper on "The Clinical Treatment of Sterility." After stating statistics he remarked that fashion had an important bearing on the treatment, at one time displacements being considered the cause which required treating, at another inflammation or stenosis. He enumerated most of the operations and other procedures which had been carried out, mentioning that catheterization of the Fallopian tubes had been advocated. He urged the importance of a thorough vaginal and bimanual examination, and of a correct diagnosis, before proceeding with any treatment, and remarked that in some cases all that was necessary to effect conception was a change of diet and habits, as sterility was common in the indolent, overfed, and fat. He preferred to examine bimanually, with the patient in bed and on the back. He urged the importance of excluding causes due to the husband. He had treated undeveloped uterus successfully by hot douches and electricity. He urged the necessity of taking a comprehensive view of the question.

Dr. Aust Lawrence, of Bristol, also found sterility in women who lived too well and took little exercise. Had treated cases of closed cervix very successfully by passing negative current by means of sound introduced into cervix.

Dr. More Madden considered ninety per cent. of the cases were due to stenosis of the cervix or of the Fallopian tube. He used the sound to straighten and dilate the cervix, and made a crucial incision of the os with Simpson's urethrotome, followed by forcible dilatation.

Dr. Wilson, of Baltimore, urged the importance of first being satisfied that the husband was not at fault. He regarded anteflexion as a common cause, and one which admitted of successful treatment. He believed the anteflexion was in most cases the result of habitual constipation at the time of puberty, the loaded bowel pressing on the fundus uteri at the time that organ began to grow and pushing it into anteflexion. He urged the importance of a daily evacuation of the bowels, especially at that time of life. He never used tents or forcible dilatation. In anteflextion and stenosis he split the posterior lip of the cervix with scissors and divided the anterior angle with urethrotome; cure followed in seventy-five per cent. of these cases.

Dr. Heywood Smith agreed as to constipation acting as a cause, but thought it acted by pushing the cervix upward and forward rather than on the fundus. He thought that a large division of os interfered with the grasping action which took place during coitus. He advised a small incision and dilatation by a stem.

Dr. Bell, of Glasgow, had had unfavorable results from incision, and did not attach much importance to stenosis. He advised curetting diseased endometrium and applying iodized phenol.

Mr. John W. Taylor, of Birmingham, urged the importance of distinguishing causes which were curable. In his experience sterility was sometimes caused by unilateral disease of the appendages, and after the removal of the diseased appendages conception had ensued.

Dr. Gordon, of Portland, U. S. A., considered the pathological condition of the endometrium the cause in most cases. He did not agree with Dr. Wilson on posterior section of cervix, but preferred gradual dilatation by means of a screw, washing out uterus with solution of perchloride of mercury by means of a double-current tube, and applied pure carbolic acid to interior.

Mr. John W. Taylor read a paper entitled "A Contribution to the Study of Acute Exanthematic Inflammatory Disease of the Uterine Appendages." He recorded a case of scarlet fever in which, twenty-eight days after the onset of the fever, symptoms of acute pelvic peritonitis appeared. He opened the abdomen and found a collection of pus in the peritoneum; the inflammation appeared to be due to the irritation caused by the discharge of the contents of a Graafian follicle, which had just ruptured in the left ovary.

Third Day, Friday, August 1st.

Abdominal Section vs. Craniotomy.—Dr. Murdoch Cameron, of Glasgow, opened a discussion on "The Relief of Labor, with Impaction, by Abdominal Section as a Substitute for the Performance of Craniotomy." He laid down that when the conjugate was below three inches the child could only be saved by Cæsarean section. He was in favor of Cæsarean section where the case was seen early, but opposed to operation before the onset of labor. He favored Porro's operation, where the uterus had been injured by prolonged attempts at delivery. He arrested hemorrhage by pressure of fingers on edges of wound, and used multiple sutures through outer two-thirds of uterine wall, taking in peritoneum. He then gave particulars of the three cases he had operated on.

The first case was that of a primipara, aged twenty. The conjugate was only one and one-half inch. The patient had been in labor sixteen hours; mother and child recovered. Second case, aged eighteen, rachitic; C. V. one inch; both tubes tied; child and mother recovered. Third case, aged twenty-three, primipara; C. V. two inches; child and mother recovered.

Diagrams and drawings were shown of the cases, and an interesting photographic group, depicting one of the cases, who married shortly after, attended by the other two patients as bridemaids.

Dr. Harris, of Philadelphia, sent a communication which was read by the Secretary. He advised suturing the uterus in two rows—deep and superficial—and evacuating uterus *in situ*. He did not advocate tubal ligation except in single women or married women who had borne two children. He would like to see craniotomy done under C. V. of two and one-half inches compared with best results of abdominal section.

Dr. William Walker asked for a definition of impacted labor.

Dr. Aust Lawrence noticed that Dr. Cameron did not put an elastic India-rubber tube round the uterus for fear of asphyxiating the child, and dwelt on the importance of studying the condition of the child and pelvis thoroughly. He asked would Dr. Cameron advise operation before labor commenced?

Dr. More Madden held that destruction of child was never justifiable. He also protested against the proposal of Mr. Tait to do Porro in placenta prævia.

Dr. Willingworth said he had done three cases—one Porro, two Cæsarean; both Cæsarean died, the Porro recovered. He thought that more statistics as to results were required before preference could be decided. All his three cases had been in labor some time before operation. He was in favor of choosing his own time for operation and not waiting for labor to begin; if uterine inertia does come on when operation has been done before labor has set in, then we should go on and do a Porro. He did not think the elastic tube caused any danger to the child. He asked whether Dr. Cameron placed the sutures so as to avoid decidua? He urged importance of keeping the incision above retraction ring. He answered the question, "Is Porro's operation good for placenta prævia," emphatically "*No*," because in the first place there was already a satisfactory method of treatment, and bad results were due to ignorance of Dr. Braxton Hicks's

method of bipolar version. In the second place, if Porro's operation were done, the lower part of the uterus was in an unsatisfactory condition for forming a pedicle.

Dr. Heywood Smith, of London, said he preferred Porro's operation because it was more easily done and had the advantage of preventing subsequent pregnancy. He approved of making the incision at upper part of uterus, because that would render it more easy to proceed to Porro's operation afterward.

Dr. Granville Bantock considered craniotomy a disgrace to the profession and never advisable. It was always possible to obtain skilled assistance because of warning beforehand. He preferred Porro's operation as being more easy. He would vote for sterilization, and considered tying tubes more dangerous than removing appendages. He did not see the necessity of elastic ligature, and considered it dangerous to child. He gave his decided vote against doing Porro for placenta prævia, and considered that the mortality of cases treated otherwise did not warrant our doing so serious an operation.

Dr. Leith Napier, of London, thought that Dr. Bantock went too far in saying craniotomy was never needed; cases where conjugate measured two and a half inches would be treated better by general practitioners by craniotomy. He thought Tait's statement that the mortality of placenta prævia was thirty per cent. was monstrous.

Mr. William Donovan, of Erdington, said his experience was that in many cases the child was dead, and then craniotomy was the only thing to be done.

Dr. Beverley, of Norwich, narrated a case in which the conjugate diameter was two and a half inches. During labor a consultation was held. Porro's operation was advised and successfully performed.

Dr. Bell, of Glasgow, thought craniotomy should never be performed.

Mr. C. J. Wright, of Leeds, thought Porro's operation not justifiable in placenta prævia. There were always a certain number of cases where craniotomy was unavoidable. The use of the cephalotribe should always be combined with craniotomy. He asked whether Dr. Cameron removed a piece of uterine wall, so as to leave overlapping peritoneum. He advised removing the appendages.

Dr. St. Clair Gray, of Glasgow, had helped Dr. Cameron in his cases, and in his opinion the danger of hemorrhage had been exaggerated. He thought that in cases when at the next pregnancy a living child would be delivered prematurely craniotomy was preferable.

Dr. Smily, of Dublin, was of opinion that craniotomy should be done sometimes, *e.g.*, in hydrocephalus, in accidental hemorrhage when severe, and in cases which have been allowed to go on in labor. Abdominal section was always better where the conjugate was under two inches.

Dr. Walter thought craniotomy was advisable in some cases, especially in cancer of cervix. He had seen two cases of Porro; no elastic tube was used, but there was no hemorrhage.

Mr. Lawson Tait said that from an ethical point of view destruction of the infant was unjustifiable, and considered so by the Roman Catholic Church, which was the only body which had discussed the question. In his opinion the choice of operation was entirely a matter of statistics. He advocated sterilization, because where you have a choice of two methods of treatment, one of which cured and the other relieved, you should choose the one which cured. As to Porro's operation for placenta prævia his experience of the mortality of other methods of treatment led him to suggest "Porro." He thought there were no satisfactory statistics as to the mortality of the condition.

Dr. Cameron, in reply, said that he had experienced no difficulty in regard to hemorrhage in his cases; he had not used the elastic tube, and would prefer to use a bandage to using tube. He avoided the decidua in passing his sutures, and agreed with Dr. Cullingworth that incision should be carried up toward fundus, and should not encroach on lower uterine zone. He would sometimes do a craniotomy on the first child, and deliver subsequent ones prematurely.

Mr. Lawson Tait then read a paper on "A Record of 219 Cases of Operation for Removal of the Appendages for the Treatment of Uterine Myoma, performed between March 16, 1883, and December 18, 1888, giving the Subsequent History of the Cases from Twenty Months up to Seven Years' Subsequent to the Operation." In these 219 cases there were four deaths, giving a mortality of 1.82 per cent. The total number of cases to end of 1888 had been 327, with six deaths. He quoted several cases at haphazard from the list, and summarized his general conclusions as follows: Of the 215 cases (219 — 4) there were three failures. One patient became insane, but, on the other hand, three patients previously insane recovered their reason after the operation. The tumor seldom needed removal unless pressing on organs, and so causing symptoms. The tumors shrank much more after the operation in the young than in older women. His opinion was decidedly adverse to treatment by electricity.

Dr. Beverley, of Norwich, read a paper on "A Case of Ligature, but *not* Removal of the Appendages, for the Treatment of Excessive Hemorrhage from Uterine Myoma." In this case the intention had been to remove the appendages, but these were found so bound down by adhesions that this was impossible. The tubes were therefore ligatured, and a good recovery and cure resulted. He asked Mr. Tait's opinion on the proceeding.

Dr. Aust Lawrence, of Bristol, urged the importance of first trying medical treatment. Electricity had produced good in his hands, and he had met with no bad results. He had made six hundred applications; the results had been good, hemorrhage being arrested.

Dr. Bantock agreed with Mr. Tait that some cases were not benefited. He had found the tumor disappear gradually after operation, with no bad symptoms in eigh teen months to two years. He had also found disappearance more rapid the younger the patient.

Dr. Byers, of Belfast, inquired what influence the size of the tumor had in deciding whether the operation should be oöphorectomy or hysterectomy?

Dr. Heywood Smith recorded a case of intermittent melancholia which seemed to be associated with menstruation; after removal of the ovaries there was no recurrence.

Mr. Lawson Tait, in reply, remarked that the advocates of electricity only used it in "suitable" cases, whereas his cases were quite unselected, being taken just as they came. He always opened the abdomen with the intention of removing the appendages, and then, if he found it necessary, proceeded to do hysterectomy. He had not tried oöphorectomy for insanity, but in epilepsy had done it sometimes with good results.

What's in a Glass of Beer.—A writer in a German newspaper has had the temerity to jot down the ingredients which go to make up a glass of beer in Germany. The pharmacopœia of the beer barrel this scientific man sets forth in alphabetical order. We give the German nomenclature for fear of spoiling the brew. It consists, says the writer, of alcohol, althopfenöl, aloe, belladonna, biercouleur, bilsenkraut, bitterklee, buchenspäne, caraghenmoos, coloquinten, enzian, fichtennadeln, gogel, gelatine, glycerine, haselnuszspäne, housenblase, herbstzeitlose, hopfenaroma, hopfenbittersäure, Ignatiusbohne, ingwer, kamille, kartoffelzucker, kardobenedictenkraut, kokelskörner, koriander, lakritzensaft, laugensalz, malzextract, metallsalze, mohn, moussirpulver, natron, nieszwurz, nux vomica, pikrinsäure, pottasche, quassia, reis salicylsäure, schafgarbe, Spanischer pfeffer, soda, stärkezucker, stärkemehl, strychnin, syrup, tannin, tausendguldenkraut, tischlerleim, wachholder, waldmeister, weidenschalen, wermuth, zuckercoulör, etc. This is why we *pass* on lager.—*Pharmaceutical Record.*

Correspondence.

COMMENTS ON A CASE OF ACONITE POISONING.

To the Editor of the Medical Record.

Sir: On September 1st, Mrs. Catharine S——, of New York, died from taking an overdose of tincture of aconite. The drug had been prescribed by a reputable physician, for her grandchild, a baby. It was directed that six drops should be put into a glass of water and one teaspoonful given hourly. The grandmother, wishing to see if it would be disagreeable to the child, swallowed, as estimated, about two teaspoonfuls from the bottle containing about two and a half ounces. The mother also sampled it, taking much less. She then put six drops of it into the glass of water and gave to the baby as directed.

Both the doctor and the drug clerk, who put up the prescription, say that they gave special caution to be careful how the medicine was used, as it was dangerous.

In a short time after tasting the drug, both the grandmother and the mother were seized with the characteristic symptoms of aconite poisoning. Physicians were hurriedly called, but in spite of all they could do, Mrs. S—— died in about two hours. Her daughter's life was barely saved.

This case furnishes an excellent text for some practical observations. It will be asked—"Why should two and a half *ounces* of aconite be ordered, when the baby would not be likely to take more than *six drops*—certainly not more than twelve?" Just here is presented a very suggestive feature of the case. I quote from the published report of the casualty. "The doctor says he prescribed a smaller quantity of medicine than the clerk put up, his prescription reading 7.5 grammes. The decimal point was invisible and the clerk put up 75 grammes, a big phial full of the stuff—nearly two and a half ounces—instead of a little one. That made no difference so long as the directions for taking were observed, but Mrs. S—— would not have been likely to take so large a quantity out of the smaller supply."

Now it is well known that the practice is altogether too common of ordering medicines in much larger quantities than are likely to be used. It is an oft-repeated complaint on the part of patients, that the house is filled with bottles, boxes, and packages of "doctor's stuff" from which little has been used, the greater part of that purchased having to be eventually thrown away. This one little circumstance has been known to turn the scale in favor of such physicians as dispense from their own medicine-cases.

Another feature of this case is well calculated to surprise some of us. For years, the persistent advocates of the metric system have rung the changes upon the liability of confounding the drachm symbol (ʒ) with that tor ounce (℥), thus leading to untold dangers to patients, assuming if not asserting that the adoption of the metric system would obviate the tendency to any such errors. Here, however, we are confronted with a case in actual practice, with a lapse in the use of the metric notation lying somewhere between the learned doctor and the skilled druggist. Evidently the overlooking of the decimal mark (.) works proportionally greater mischief than does the mistaking of the drachm and ounce symbols in the older method. And, although in this case the error was not the direct cause of death, it is easy to see that the same error in compounding a mixture would have been less easy to trace, and the innocent patient instead of the inquiring grandmother would have been the unfortunate victim.

I hardly need suggest how much more rational and safe it would have been to prescribe a two or three ounce mixture with water, making the proper strength of aconite to be given as desired. In this way no great amount of the dangerous drug would have been left about the house to endanger others. These may appear to be small matters, but in the use of powerful poisons, by either physician or patient, human life is involved, and it is not possible to be too cautious in matters apparently trifling.

I wish to call special attention to still another point. There can be little question that aconite is one of the surest, least painful, and most dangerous drugs that can be used for either homicidal or suicidal purposes. The difficulty of actual chemical detection, the rapidity of its action, the absence of any reliable antidote, and the fact that it is procured without much difficulty, and is kept as a domestic remedy in very many families, render this one of our most dangerous drugs. Some years ago I saw, under the care of another physician, a case in which an ignorant servant girl had been intrusted with some aconite by a dentist for the purpose of rubbing on her inflamed gums. The quantity, as he stated, was about a drachm of tincture of aconite root. Whether or not she mistook his directions and swallowed it by mistake, was never known. Suffice it to say that the next morning she was found paralyzed, and the bottle was empty. In spite of all our efforts she was never restored to consciousness, but expired within a few hours.

The public needs only a suggestion to put this knowledge to criminal use. On the very next day after the death of Mrs. S——, the New York papers recorded the death of a business man from New Jersey, who came to New York on one of his accustomed "sprees," and wound up by committing suicide with aconite. Undoubtedly he got his idea from reading the published report of the death of Mrs. S——.

The conclusions to be drawn from this case are so obvious that there is no occasion for further comment upon them.

Benjamin Edson, M.D.

Brooklyn, N. Y.

P. S.—When the foregoing was written I did not anticipate so speedy a confirmation of my warning. On Monday, September 15th, just two weeks after the death of Mrs. S——, Mr. R. T. Bush, a wealthy and well-known resident of Brooklyn, died suddenly from an overdose of aconite, evidently taken by mistake.

He was subject to insomnia and had been in the habit of taking paregoric for relief.

Feeling the need of sleep, about 6 A.M., he took from a bottle, supposed to contain paregoric, some three or more teaspoonfuls, which he put into some whiskey, and drank. The whiskey served to disguise the peculiar taste of the drug. Not experiencing the anticipated relief, and feeling some nausea and burning in the throat, he awakened his wife and told her of his suspicion that he had taken a dose of aconite. On examination, the paregoric bottle was found full, and the aconite bottle half emptied. Emetics and stimulants were at once given and the family physician called. He responded promptly, but arrived only a few moments before Mr. Bush breathed his last. The time from taking the fatal dose to his death was probably about one and one-half hour.

Powerful and poisonous drugs should be kept *only* in bottles of peculiar and suggestive form. Those of rough exterior and sharp-pointed glass-top stoppers are especially to be recommended. B. E.

SURGICAL TREATMENT OF POSTERIOR TURBINATED HYPERTROPHY.

To the Editor of the Medical Record.

Sir: In your issue of August 30th I see an article on the "Surgical Treatment of Posterior Turbinated Hypertrophy," by Dr. A. E. Prince, of Jacksonville, Ill., in which a pair of curved forceps are shown and a mouth-gag and an anæsthetic are recommended for the removal of such growths. Now I think the doctor's forceps are excellent, and in some cases the resort to an anæsthetic is necessary, and I would not be understood in any way as criticising

him, but it does appear strange to me that many of the profession still continue to use what may be termed "a blind method" of operating, viz., depending on the fingertips in the posterior pharynx to guide the instrument, while by the use of a self-retaining palate retractor and a rhinoscopic mirror every step of the operation can be watched and accurately performed without the use of any mouth-gag, or anæsthetic except cocaine. We even occasionally hear that the old method by the "tape and clamp" is preferable for retracting the palate, while a more awkward and disagreeable operation both to the patient and operator can scarcely be imagined.

Yours very truly,

W. PEYRE PORCHER, M.D.

4 GEORGE STREET, CHARLESTON, S. C.

IN THE HEART OF THE NEW SOUTH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: From the MEDICAL RECORD of June 5th it seems that some time during the early summer of this Anno Domini a very notable and momentous event took place in our pitiable (?) Magic City—a New York doctor *Wendt* all the way from New York City to our poor little village (?) on a professional visit, and he has taken large occasion to advertise the same. Well, perhaps it is worth speaking about.

Clean Clothes.—We are certainly a deplorable and to be pitied set of people down here who have to wear dirty clothes all our lives because we haven't a New York laundry to clean them. I suspect that he even thought that Colgate, and Graham & Palmer, and others are unknown here, and perhaps their products unused.

The Race Problem.—The unmistakable earnestness displayed in the "funny" doctor's solution of this question entitles his remarks to the pity of silence; that such a frivolous solution should be so earnestly given to so momentous a question—but the thought is certainly true to its parentage. But even if his solution were practicable would it not be best to reserve a few of the best and purest specimens for color, size, filth, and stink for the supporters of the Force-Lodge Bill, and perhaps the very best of them all for Ingalls to hang on the bridge of his spectacles (?).

The Medical Profession.—But the poor medical profession down here! May the Lord have mercy on them, but more especially may his mercy abound toward those upon whom they—our doctors—practise their stupendous ignorance. Why don't we send to New York for our doctor when our babies have the colic? (Some few specimens of them have life and vitality enough to have the colic and even to utter a feeble cry.) Or when our thin-breasted maidens have the time-honored ball in their thin throats which will neither down into their thin stomachs nor out through their thin lips? (It is a fact, Mr. Editor, that some of our maidens do have the physical strength, if not the common-sense, to have hysterics.)

And now, you poor Birmingham "consultation" doctor, who by right of years and experience, even-handed with educated brains, who have read after and studied under some of the greatest masters in this and other countries, are entitled to respect, let me say, "How are the mighty fallen!" you are devoid of all sense and observation compared to this scintillating and coruscant star that *Wendt* from New York to Birmingham, Ala. (Punning is a very low order of wit.) But he comes, a master of languages, gleaned largely, it seems, from the hinder part of the blue-back spelling-book; but our poor benighted city was illumined once in its life with a "consultation" doctor, and it is surely plain to a blind man that our poor, ignorant doctors here are not the only ones "haunted with the dreadful secret of their own pre-eminence."

Our Women.—Nothing so plainly shows such a deplorable lack of that culture and refinement by which we recognize and appreciate the beautiful than what the "funny" doctor who *Wendt* from New York to Birmingham has said. Our fair women, reared in the arms of a gentle mother clime, and kissed and fanned by her warm, gentle breath, that scarcely withers the delicate flower, whose vital forces need but the daintiest of delicate food, stand out pre-eminently, the acknowledged admiration of the world, whose beauty is transparent and transcendent. She can "dance all night and go home in the morning" as bright and as fresh as a new rosebud, and she moves with the dignity and grace of a "heave of the sea, or a change of the cloud." His "slander" evidently shows that he has been accustomed to and admires a beauty fostered by severe cold, olive-oil, limburger, and lager, and he don't want any other sort in his'n. (Am sorry I don't know any Latin.) Now to his letter in the RECORD of August 2d, I wish to speak to only one or two points in this. If he knows how to cure typhoid fever I wish he would tell us. Has his knowledge of the bacteria or microbe of typhoid given him any help in curing it? Has the knowledge of bacteriology added any force or strength to our therapeutics? Because he knows and can isolate the bacteria of phthisis can he cure the complaint? Then what is he talking about, except that he loves to see his name in print; who writes everything he knows and some things that he don't know, as I shall endeavor to show before I am through, and because he thinks he writes well and what he writes meets "with such a flattering reception."

These fevers have been written up for your journal, I think, and why has he formed no opinion concerning them? If they have not been written up, perhaps some of us poor, pitiable ignoramuses, who never write anything, should write them up. I cannot notice this point in his letter farther without going into the details of "this" fever and making this letter too lengthy—hence I dismiss it.

A Word of Warning Concerning Birmingham.—As strong as it is, I lack English to express my condemnation of this part of his letter. It is positively painful to a sensible man to see the "Ego," the "I am from New York" in his letters, but the positive, unadulterated ignorance displayed by the doctor who *Wendt* from New York to Birmingham, Ala., is simply pitiable. He says in B'ham's "present sanitary condition it is an excellent place to stay away from," showing palpably his mental "feather-weight" and want of observation, and that he came and comes to conclusion by premeditated intentions and not from thought or investigation. His slander is positively malicious, and I beg to append a few short plain statistics for the information of the gentleman.

We have twenty miles of the Waring system of sewerage.

We have two large crematories and every twenty-four to thirty-six hours every street and alley in our city are cleaned of all their filth and garbage and hauled to these crematories and there burned, and families are required to place in alleys accessible to these wagons all slops and garbage.

We have between three and four million gallons of water in daily use, brought here from what is known as Five Mile Creek, and which has its source among the eternal hills from whence comes the limpid sparkling waters that form this creek. It is pure and clean as any that ever gushed from mother earth. And not only that, but the necessity arising from our peculiar and magical growth for a greater water supply, we shall, by October next, have a large stream, five millions daily, from the Cahaba River, distance some seven miles from this city, and we tap that river not more than twenty miles from its source among the everlasting hills, and we get its water pure and uncontaminated.

Now, I challenge the doctor to refute this. Since the doctor has said that this is "an excellent place for white people to stay away from," I beg to add, the death rate of the whites for the first seven months of this-year: Census enumeration, 27,000. January, 12.84; February,

13.68; March, 13.68; April, 10.56; May, 16.08; June, 17.28; July, 13.32. Average 13.34.

Now, where is there a city in the United States can make a better showing for health than this?

J. H. McCARTY, M.D.

THE NEEDLESS PRESCRIPTION OF SPECTACLES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of July 5th Dr. Gifford writes, under the above caption, protesting against the wholesale prescription of spectacles, particularly for the young.

His statement that it is the practice of the majority of oculists to correct 0.75 D to 1 D of hypermetropia, and 0.25 D to 0.50 D of astigmatism, when there are eye symptoms "not otherwise easily explained," is undoubtedly true, and the doctor shows that he belongs to the majority when he admits that he sometimes prescribes a quarter dioptry cylinder, whether he does this for mental or physical effect.

It is generally in these nervous cases where these weak glasses are used, and with good effect. Where slight errors of refraction are found, with ocular disturbance not otherwise explained, the indication for glasses for constant use is clear. By the term "constant use" I understand that the glasses are used both for distant and near work. They may be so used for a few days or for a lifetime.

That reputable oculists prescribe glasses needlessly I do not believe, or, at least, it is to only a limited extent, and it seems to me that the doctor has failed to make out a case. I can now recall but one instance where I thought glasses were needlessly prescribed, while I can recall from memory as many as a dozen prominent citizens of Chattanooga who should wear spectacles, but have refused. Some of these are doctors.

It seems to me that his whole article is misleading. It conveys the idea that the majority of oculists prescribe glasses whenever there is a slight error of refraction, regardless of symptoms. This I believe to be far from the truth. The general rule is to adopt glasses as the last resort. Oculists realize fully as well as any the inconveniences and disadvantages of spectacles. They also know their advantages. Having determined that glasses are indicated, one of the hardest tasks in many cases is to induce the patient to wear them. The idea that people wear glasses for style is a thing of the past, for it is among stylish people that most difficulty is experienced. There are not a few cases where ladies admit that they would rather have severe headaches, and asthenopia with its attendant discomforts, than to put on spectacles. Nor is the male sex free from this species of vanity. Some are afraid that having begun the use of glasses they will have to wear them ever after. This will be the case if the original condition exists; but it often happens that glasses will assist in tiding over a temporary condition, and may be left off when the nervous system recovers its wonted vigor.

We have a duty to teach the laity the *proper* use of spectacles as a therapeutic agent as well as for the aid they give to sight. The doctor's assertions are entirely too sweeping, and I could not see them pass by without a protest, knowing that they would attract wide-spread attention, coming from so high an authority, and appearing in a journal of as large a circulation as the MEDICAL RECORD.

FRANK TRESTER SMITH, M.D.

CHATTANOOGA, TENN., August 7, 1890.

Petition for a New College.—A petition, said to be signed by "a large number of prominent citizens," will be presented to the next legislature of Vermont asking for a charter for a new medical school to be started in Rutland. Even citizens are beginning to be interested in free medical treatment.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 14 to September 20, 1890.

SPENCER, WILLIAM G., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, will upon the abandonment of Fort Bridger, Wyo. (his present station), report in person to the commanding officer at Fort Omaha, Neb., for duty at that station, relieving First Lieutenant Alfred E. Bradley, Assistant Surgeon. S. O. 214, par. 16, A. G. O., Washington, D. C., September 12, 1890.

BRADLEY, ALFRED E., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War, upon being relieved by Captain Spencer, will report in person to the commanding general, Department of the Platte, for duty as attending surgeon at the headquarters of that department. S. O. 214, par. 16, A. G. O., Washington, D. C., September 12, 1890.

SUTRO, WILLIAM N., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War, leave of absence granted in S. O. 149, June 26, 1890, from this office, is extended fourteen days. S. O. 214, par. 6, A. G. O., Washington, D. C, September 12, 1890.

MCELDERRY, HENRY, Major and Surgeon. By direction of the Acting Secretary of War, the leave of absence for seven days heretofore granted by the Superintendent of the U. S. Military Academy is extended to November 10, 1890, on account of sickness. S. O. 214, par. 5, A. G. O., Washington, D. C., September 12, 1890.

COCHRAN, JOHN J., Captain and Assistant Surgeon, now on duty at Fort Adams, R. I. By direction of the Acting Secretary of War, will proceed to Mount Vernon Barracks, Ala., and report in person to the commanding officer of that post for temporary duty, and on completion of the duty contemplated he will return to his proper station. S. O. 214, par. 2, A. G. O., Washington, D. C., September 12, 1890.

IVES, FRANK J., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, granted leave of absence for three months, commencing about October 1, 1890, provided one of the acting assistant surgeons serving in the Department of the Missouri can be assigned to duty in his stead at Fort Sill, Oklahoma Ter., during that time. S. O. 213, par. 26, A. G. O., Washington, D. C., September 11, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending September 20, 1890.

OLCOTT, F. W., Passed Assistant Surgeon. Ordered to the Alert.

An Indian View of the Benefits of Civilization.—The impending extinction of the Indian is not viewed with equanimity by all belonging to that race. Here is the speech of an aged warrior, recently reported: "Before the white man came, we were strong—we were alive! We lived in tents, we rode on horseback, we moved constantly from place to place. We ate good meat of buffalo and juicy venison; we drank pure water. Our young men never coughed, the blood never sprang from their lips; our girls had not these great swellings on their necks and these pale faces. The white man brought us these things! He brought us the flesh of diseased cattle, bad bacon, the coffee that takes away our strength. We sit in the white man's houses and eat these things, and we die like the dogs! There are no old men and old women nowadays; the very children are dying!"

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 20, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	52	17
Scarlet fever	23	8
Cerebro-spinal meningitis	1	1
Measles	41	6
Diphtheria	53	20
Small-pox	0	0
Varicella	2	0
Pertussis	17	1

Differential Diagnosis of Injuries about the Hip.—The following table has been prepared by Dr. Keen as an aid to the differential diagnosis between dislocation and fracture of the neck of the femur.

Fracture of Neck.	*Dislocation.*
Old persons, as a rule.	Adult middle life.
In women more frequently.	Either sex (men more frequently).
Slight force.	Severe force.
Eversion of toes.	Inversion of toes (usually).
Shortening in both.	Shortening in both.
If you restore to position displacement recurs.	If you restore to position displacement does not recur.
Usually crepitus.	No crepitus.
Preternatural mobility.	Preternatural immobility.
Slight prominence of great trochanter.	Great prominence of great trochanter.

He also gives this table as a differential diagnosis between intra-and extra-capsular fracture of the neck of the femur.

Intra-capsular.	*Extra-capsular.*
Slight injury.	Severe injury.
Rarely severe contusion.	Usually severe contusion.
Shortening increases.	Remains the same.
Crepitus feeble and sometimes absent.	Crepitus distinct.
Leg nearly (but not entirely) helpless.	Entirely so.
Shortened radius of rotation.	Still more so.
Pain tolerably severe.	Extremely severe.
Usually occurs in persons over fifty years of age.	Usually occurring in persons under fifty years of age.
More frequently in women.	More frequently in men.

—*College and Clinical Record.*

The Congo Cannibals.—Father Augouard, Apostolic Pro-Vicar of the Oubanghi, states that it is his intention to found a station upon the Upper Oubanghi, 1,100 miles from the coast, among the anthropophagous tribes with whom the slave is regarded simply as an article of food. He gives some curious information as to these tribes, remarking that while in certain parts of Africa cannibalism only exists as an incident of war, to deprive the vanquished of even the honor of burial, in the Oubanghi country human flesh is an article of regular consumption, not a day passing without a village immolating some victim destined to provide a feast. Sometimes it is the death of a chief, at others the celebration of a victory, at others the arrival of a piece of good news, which serves as a pretext, and one chief will vie with another to see which can immolate the most victims. These savages regard human flesh as a dainty morsel, and prefer it to any other food, considering that it is a noble kind of food, far superior to that of animals. When told that it was horrible to eat their fellow-creatures, they simply replied: "No, it is delicious with salt and spices." When Father Augouard went on to point out to them the difference between man and the animals, and to say that if they fell into the hands of their enemies they might be eaten in their turn, all they said was that that was the fate of war, and that, just as man was nobler than animal, so his flesh was "more noble to eat."—*London Times.*

Snow in the Treatment of Venereal Sores.—Dr. Wettendorfer has contributed a curious experience of his in the *Internationale Klinische Rundschau.* In a case of venereal ulcerations of the penis the ordinary remedies used in such cases were employed without being attended by any results. Remembering that many of the people of Hungary treat frostbites, ulcers, etc., with applications of snow, he resolved to give this curious method of treatment a trial in his venereal cases. He caused a small wooden vessel to be filled with snow in such a manner that a hollow space remained in the snow to admit the penis. The whole was attached to the body by means of bandages. The snow was renewed every two hours. In about eight days the ulcerations had entirely healed.—*St. Louis Medical and Surgical Journal.*

Effects of Castration in the Female.—The following experience of a veterinary surgeon is of interest in relation to complete removal of the ovaries in our own species. M. Barthelmy states in the *Journal ae Médecine Vétérinaire*, that œstrum or "rut" can occur in pigs after complete removal of the ovaries. A professional spayer operated on thirty-eight young pigs under sixty days old, yet these animals showed the symptoms of "rut" at from three to eight months, and monthly after that age, as though they had not been spayed. An action was brought against him after M. Barthelmy had given his opinion that the œstrum indicated incomplete removal of the ovaries. The defendant declared that he had seen œstrum in pigs which had been properly spayed. The court ordered that five of the pigs that showed all the phenomena of œstrum to the greatest extent should be killed and examined by a competent veterinary surgeon. This was done, and it was found that in each case the operation had been well performed, the ovaries, tubes, and almost the entire cornua of the uterus having been removed—*British Medica Journal.*

The Rationale of Cold Baths in Typhoid Fever.—M. Debove, in a paper read at the last session of the Paris *Société Médicale des Hôpitaux* on the treatment of typhoid fever by cold baths, declared that he had not been convinced by a recent paper of M. Merklen that this was the best treatment. His own mortality during the last six years was eleven per cent., or during the last two years 9.2 per cent. Now Mr. Merklen estimates the mortality from typhoid in Paris hospitals treated by cold baths as 9.92 per cent. M. Debove does not prescribe active medication, but believes in keeping up copious diuresia. To this end he supplies his typhoid patients with abundance of liquid, and if the quantity of urine passed does not appear to him sufficient, he "stimulates the zeal" of the attendants to get the patient to drink more; the total amount of fluid which should be taken daily ought, he says, to be not less than five or six quarts. M. Debove, who does not deny the good effects of baths, suggests that they are probably due to the increased quantity of urine secreted, which, as in the case where diuresis is produced by drinking, carries off the *materies morbi* from the system. According to M. Gérin-Rose, who followed M. Debove, still more successful results may be obtained by carrying out the following indications: 1, To produce intestinal antisepsis by means of naphthol and salicylate of bismuth; 2, to lower the fever by means of very large doses of quinine and warm baths (at 86° F.); and, 3, to keep up the patient's strength. Of forty-three patients treated during the last eighteen months in this way, only one died.—*The Lancet*, August 16, 1890.

A Universal Panacea.—The acting colonial surgeon of the Victoria Hospital, in Gambia, states that, among the inhabitants of that country, there is but one recognized treatment of disease. This consists in calling in a man who is supposed to be a "doctor," and who, after looking at the patient, sits down at his bedside and writes in Arabic characters on a wooden slate a long rigamarole, generally extracts from the Koran. The slate is then washed, and the dirty infusion drank by the patient.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 14.
Whole No. 1039.

NEW YORK, OCTOBER 4, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

INTUBATION OF THE LARYNX IN ACUTE AND CHRONIC SYPHILITIC STENOSIS,

AS A SUBSTITUTE FOR TRACHEOTOMY AND THE METHOD OF SCHROETTER.[1]

BY GEORGE M. LEFFERTS, M.D.,

PROFESSOR OF LARYNGOSCOPY AND DISEASES OF THE THROAT, COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK.

FROM among many matters, of more than passing interest, concerned with the subject to which I have been assigned, there is none which, in my judgment, possesses a more recent one, nor is of greater scientific value and pressing and immediate importance, than that of "intubation" in certain syphilitic diseases of the larynx.

I have, therefore, selected this question for consideration, and shall advance clinical evidence in support of the effectiveness of the method, which, though it is as yet limited, comprises all that I am either personally familiar with, or have learned by a careful bibliographical research, and which leads to certain definite results that merit attention, based as they are upon established facts and not upon speculative theory.

Intubation, in the treatment of diphtheritic croup, revived, improved, and popularized by American genius and perseverance, must soon, by its very simplicity, readiness, marvellously quick relief in moments of urgent danger, and brilliant, ever-improving statistics of cure, find a world-wide acceptance and become universally practised. Already a method, doubtfully adopted in America in 1885 but by a few, now numbers its confident and enthusiastic operators everywhere, and its successful cases by the hundred. Such evidence must be regarded as sufficient that the procedure is founded upon some inherent merit.

On the contrary, our knowledge of intubation as a means of relief or cure in other forms of acute and chronic laryngeal stenosis, especially those of syphilitic origin, is in its infancy, its ultimate possibilities as yet undeveloped.

A more extensive practical trial and possible improvements, in both method and instruments, will doubtless more than confirm what our present limited experience has taught concerning its value.

Confining myself, then, to the question of syphilis alone, intubation certainly offers, in a large proportion of instances, the simplest and most practical means yet devised of quickly and efficiently relieving the dyspnœa of acute laryngeal stenosis, thus avoiding a tracheotomy, and for dilating chronic cicatricial stricture, in its varying grades and forms, with speed and certainty, thus dispensing with the temporary or permanent necessity of a tracheal cannula.

The history of the treatment of chronic laryngeal stenosis, especially that of a cicatricial nature, shows no brilliant triumphs and but few lasting successes. Many methods have been devised, many instruments been the outcome of the inventive ingenuity of specialists; but until the latest and well-known one of Professor Schroetter, which necessitates the existence of a tracheotomy wound, no distinct plan of procedure had, or has since, been formulated.

A short research in medical literature tells of the varied procedures of, among others, Alexich, Asch, Busch, Bergmann, Caird, Chiari, Czermack, Gerhardt, Gurlt, Hering, Hack, Labus, Macewen, McSherry, Nawratil, Polk, Richet, Ribemont, Rauchfuss, Semeleder, Schroetter, Stoerck, Sceparowicz, Trendelenburg, and Weinlechner, the majority of whom passed the dilating instrument through a tracheal wound upward into the strictured larynx.

In other instances attempts were made to relieve the laryngeal stenosis by the use of a long tube or catheter passed through the mouth, or sometimes the nose, into the larynx, an unsatisfactory method for many reasons.

Trendelenburg, followed by Schroetter, employed the hollow, three-cornered, or a round vulcanite bougie, or catheter, as a dilator, and this, in turn, was superseded by the graduated and solid metal one, as now used in tracheotomized patients in the justly celebrated method of Schroetter, one so well known as to its details of procedure, advantages, disadvantages, and results that it needs no description here.

For the relief of sudden, severe, and dangerous dyspnœa, occurring in the course of a syphilitic laryngitis, the operation of tracheotomy, the one usually chosen, has been heretofore our single resource. One that, though it temporarily relieves, adds perhaps to the original condition of danger others, *i.e.*, shock, loss of blood, an open wound, erysipelas, septicæmia, or those dependent upon any procedure that opens up the great air-passages, or the operation of laryngotomy, which, in addition, directly exposes the delicate articular and muscular apparatus of the larynx to risk and permanent disability, especially if the cannula be long retained.

No rule is absolute, no plan of procedure infallible; but with these older methods of treating laryngeal stenosis the newer one of intubation may be favorably compared. For tracheotomy it offers an efficient substitute devoid of danger, and in view of the special features, one more effective and reasonable.

Over the "method of Schroetter," the only one necessary to be considered in this connection, it presents the advantages of avoidance of the necessity of a preliminary tracheotomy, and affords a possibility of the continuous and prolonged retention, without risk or inordinate discomfort, of the dilating means.

Doubtless the future will modify, perhaps greatly extend, the limitations here placed upon the procedure, but to-day we may claim certainty of fulfilment in some, reasonable expectation in others, of the following general indications.

Some, therefore, I advance with confidence, others with hesitation, but submit all for your candid criticism.

CLASS I.—The immediate relief of dyspnœa in all cases of acute syphilitic stenosis of the larynx, by mechanically and temporarily affording an artificial passage for the respiratory current through the intubation-tube.

CLASS II.—Facilitating and hastening, by either equitable and prolonged, progressive, or specially directed pressure of the intubation-tube, the absorption of acute inflammatory effusion, or the thickening and induration attendant upon chronic syphilitic inflammation of the larynx.

CLASS III.—Forcible dilatation and continuous distention, by means of the intubation-tube, of slight and recently organized membranoid or band cicatrices.

[1] A paper read before Section XII. of the Tenth International Medical Congress, in introducing a discussion upon "Syphilis of the Upper Air-passages."

CLASS IV.—Progressive dilatation, by means of a series of intubation-tubes, of cicatricial strictures of the larynx, subsequently to their incision, by some form of cutting laryngeal dilator.

CLASS V.—Divulsion and progressive dilatation: Incision and subsequent distention, the former being made through the larynx, or from below, through the tracheotomy wound; or systematic, continuous dilatation, by such specially adapted intubation-tubes as may be required in cases which vary greatly in the nature, extent, and character of the lesions, in all cases of chronic and extensive cicatricial stenosis of the larynx, with displacement and distortion of laryngeal parts, the result of dense cicatrization following gummatous degeneration in tertiary syphilis and where a tracheotomy tube may or may not be worn.

And in the following classes:

CLASS VI.—In dyspnœa due to abductive immobility of the vocal cords, dependent upon syphilitic non-suppurative adhesive arthritis of the arytenoid articulations, or their mechanical fixation by either plastic infiltration of the tissues in their neighborhood, leading to adhesive perichondritis and spurious anchylosis, or cicatrices of the same parts, which bind them in an immobile position, and in which well-directed pressure by the intubation-tubes will exert a favorable influence in promoting absorption of effused material, or forcibly break up cicatricial attachments and free articular movement.

CLASS VII.—In dyspnœa dependent upon abductor paresis, from commencing degenerative processes of syphilitic origin in the abductor muscles themselves, in which the preservation, by means of the intubation-tube, of even a small respiratory opening may stimulate normal physiological movement and preserve nutrition by maintaining muscular activity.

It is understood that in all the above classes of cases intelligent and energetic anti-syphilitic treatment is employed to combat the accompanying diathesis; and that the tracheotomy cannula, if it be worn, is no contra-indication or barrier to the use of an intubation-tube.

Practical illustrations of many of these propositions are afforded in the histories of the following cases, which are condensed as far as is practicable consistently with clearness:

CLASS I., CASE I. *Acute Syphilitic Stenosis of the Larynx; Condylomata.*—Lizzie S——, aged twenty-six. The involvement of the larynx has existed three and a half months, and severe dyspnœa progressively and rapidly developed. An examination of the organ shows its cavity to be completely occluded by a large, irregular, reddish mass, whose attachments cannot be defined.

The danger of suffocation being imminent, a medium-sized metal intubation-tube was introduced without difficulty. The relief was immediate and positive; no inconvenience was caused by the presence of the tube, and on the third day it was removed. Respiration was free and unimpeded. The occluding tumor had shrunken to a small and unimportant size, and its remains were seen as small reddish granulations, specially in the posterior commissure.

An examination made two years later (May, 1890) shows the lumen of the larynx to be free, the muscular movements of the vocal cords normal, the right slightly thickened and reddened, and the tissues in the posterior commissure hypertrophied and irregular.[1]

CLASS I., CASE II. *Acute Syphilitic Stenosis of the Larynx; Subglottic Laryngitis; Gumma.*—A syphilitic patient, aged forty, and aphonic, developed a dyspnœa so urgent that all preparations for a tracheotomy had been made. The laryngoscope showed subglottic laryngitis (perichondritis). A long intubation-tube was passed through the strictured portion of the larynx without difficulty and with immediate relief. The tube was removed in five days, but replaced in twenty minutes, owing to the rapid return of the dyspnœa. Two days later it was again withdrawn, and reinserted in half an hour; and for the third time, ten days after the first insertion, when it was left out for twenty-one hours; dyspnœa then became so urgent that it was hurriedly replaced and not disturbed for twenty-one days from the first introduction, when it was withdrawn and the patient found to breathe comfortably without it.

Six weeks later the patient was found deeply cyanosed and rapidly becoming asphyxiated. Examination showed the dyspnœa to be due to the presence of an intralaryngeal gumma. Intubation was immediately performed, with some difficulty; relief to the dyspnœa followed; the tube was not disturbed for one week, then removed and replaced by a larger; the latter was worn seven days and then permanently withdrawn.

Three years have now elapsed (May, 1890) since the last intubation, and no repetition of the procedure has been necessary; the larynx shows some subglottic thickening, which interferes to a slight degree with both the voice and respiration.[1]

CLASS, II. CASE III. *Chronic Syphilitic Stenosis of the Larynx; Hypertrophy; Ulceration; Chronic Œdema.*—Mrs. M——, aged forty-five. The patient gives a specific history. Four years ago she first complained of painful sore-throat, referable to the larynx. There had been difficult breathing for two years, increasing until the present dangerous grade of dyspnœa had been attained. The epiglottis is partially destroyed by old ulceration; the cavity of the larynx is almost entirely occupied by dense, indurated, and swollen mucous membrane, intensely hyperæmic; secondary œdema of arytenoids, and partially of the ventricular bands. No view of the glottis region is obtainable. From the left ventricle of the larynx a small, soft mass, apparently granulation tissue, protrudes; complete aphonia. Intubation, under cocaine anæsthesia, with some difficulty and force; the smallest-sized rubber tube, fairly well borne, remained in position eighteen days. The relief to the urgent dyspnœa was marked and immediate. Upon the removal of the tube, doubtless owing to the continuous intralaryngeal pressure exerted, there was considerable increase in the calibre of the laryngeal cavity; the parts were more clearly defined and fair motion of the vocal cords existed. No reintroduction of the tube was, or has been, necessary.

The patient has made progressive improvement both in respiration and voice.

Nine months later (May, 1890), voice fair; no return of the dyspnœa, and continued increase in the breathing space through the larynx.[2]

CLASS II., CASE IV. *Chronic Syphilitic Stenosis of the Larynx; Ulceration; Hypertrophy.*—The patient, aged twenty-two, with emaciation, hoarseness, cough, and dyspnœa at night, showed active ulceration at the base of the epiglottis and upon the left side of the larynx. General hypertrophy of the laryngeal tissues, and specially of the arytenoids, which latter were partially anchylosed. The dyspnœa was progressive, and within five months had become urgent. Three intubations, within two days, with successive increase in the size of the tubes, relieved the dyspnœa; one week later it was necessarily repeated, and a much larger tube retained comfortably for eighteen days before it was expelled. Respiration now but slightly embarrassed. After an interval of three months a slight recurrence of dyspnœa was relieved by the use of a large-sized tube for twenty-four hours. For a period of nearly three years subsequently the patient was under observation; there was no diminution in the size of the glottic opening, and no recurrence of dyspnœa. He died ultimately of an affection unconnected with the throat.[1]

CLASS III., CASE V. *Cicatricial Stenosis of the Larynx.*—A patient, aged forty, with the soft palate adherent to the posterior pharyngeal wall; active ulceration, the epiglottis partially destroyed and deformed by cica-

[1] New York Medical Journal, February 22, 1890.

[1] New York Medical Journal, March 10, 1888.
[2] Ibid., February 22, 1890.

tricial contraction, and a cicatricial band encircling the left half of the larynx, crossing and partially occluding the glottis anteriorly; cicatricial adhesion of the ventricular bands. Gave a syphilitic history of twelve years' duration, and one of serious dyspnœa for two months; patient aphonic. A small intubation-tube was passed with force through the constriction, and gave immediate relief to the dyspnœa. This was succeeded in rapid sequence by other and larger tubes during eighteen days, until ample breathing space existed in the larynx. Tubes inserted nine times, and retained an aggregate of one hundred and seventy-three hours.

Two and one-half months later intubation again became necessary, owing to a gradual return of the dyspnœa, due to an inflammatory subglottic stenosis. Dilatation was recommended with the smallest tube, introduced with force, and rapidly followed by larger ones, for twenty-seven days. Tubes inserted thirteen times and retained two hundred and four hours. Relief to the dyspnœa was again prompt.

Ultimately, practical trials having demonstrated that periodical introduction of the intubation-tubes was necessary, certainly for a time, to retain the degree of dilatation obtained, a large rubber-tube was inserted once a month and worn from two to three days; these intervals were gradually extended until seven months had elapsed, when all treatment was discontinued. One year and eight months (May, 1890) have since passed. There is now not the slightest difficulty in respiration; voice excellent.[1]

Class IV., Case VI. *Cicatricial Stenosis of Larynx.*—A girl, aged eighteen, the victim of hereditary syphilis, has had destruction of the nasal septum, perforation of the hard palate, ulceration of the pharynx, and later, despite an active anti-syphilitic treatment, complained of increasing dyspnœa, due to a gradual closure of the glottis, "without ulceration."

Dilatation with Schroetter's bougies gave but temporary relief, and tracheotomy was performed, followed in the course of time by the use of Whistler's cutting dilator. Through the enlarged opening thus made in the cicatricial tissue a small intubation-tube was passed with some difficulty. A second and larger one was introduced in three days, and worn over one month; a further and too rapid increase, from the third to the eighth in size, was followed by a perilaryngeal abscess. A tube was finally allowed to remain unremoved for three months. A free opening through the glottis, the size of the tube, now existed, and respiration being easy and natural, the latter was not reintroduced. The tracheotomy-tube, which had for some time been worn closed, was permanently withdrawn in less than one month from this date, and the tracheal wound closed.

A report, six months later (April, 1889), shows that freedom in respiration continues; no vocal cords can be seen; patient speaks in a loud whisper.[2]

Class IV., Case VII. *Cicatricial Stenosis of Larynx.*—A female, aged thirty-five, syphilitic, showed on laryngoscopic examination a syphilitic adhesion uniting the anterior two-thirds of the vocal cords and involving the cushion of the epiglottis. The glottic opening was reduced to the size of a goose-quill. Dyspnœa marked. Under an anti-syphilitic treatment the inflammatory conditions that coexisted subsided.

The cicatricial stenosis was treated by dilatation with the rubber intubation-tubes, worn for two weeks at a time, and their size progressively increased.

Two months later, improvement in the general condition of the patient and in her breathing being most decided, dilatation was discontinued.

A lapse of two months and the patient reappeared, complaining of an increasing dyspnœa, which was shown to be due to a recontraction of the cicatricial web.

Cocaine anæsthesia and division of this cicatrix, with Browne's laryngeal dilator with cutting blades, the introduction of hard-rubber intubation-tubes of increasing size, at intervals of three days, until seven days had elapsed and the edges of the divided tissues found to be healed over, were now practised.

Again two months have passed without treatment, the cicatricial web has diminished, the glottic opening is free, and remains so, the patient in excellent condition and breathing at a normal rate.[1]

Class V., Case VII. *Chronic Syphilitic Stenosis of the Larynx; Bilateral Paralysis Abductors; Cicatricial Adhesion of the Vocal Cords.*—The patient, a woman aged thirty-five, had worn a tracheotomy tube for two years for the relief of dyspnœa, due to bilateral abductor paralysis of syphilitic origin. A forcible attempt, under ether, to pass a small metal intubation-tube through the larynx failed. The wound in the crico-thyroid space was then enlarged and a uterine sound forced through the adhesions found binding the inferior surfaces of the vocal cords together; the opening thus made, dilated by forceps and finger, allowed the passage of an oval rubber tube, three inches long, from above through the larynx.

The laryngotomy wound was now closed, and the patient breathed through the natural passages. On the second day the intubation-tube was coughed out, the patient became asphyxiated, and the cannula was necessarily reintroduced; the tube was immediately replaced and cannula again removed.

Some weeks later the necessity of removing some tissue, in order that a permanent cicatricial opening, for respiratory purposes, might be permanently retained, became apparent. A portion of each vocal cord was cut away by a knife introduced through the original, but enlarged, laryngotomy wound. The intubation-tube was replaced, and a closed tracheotomy cannula temporarily introduced, but in a few days finally removed and the wound closed. At the end of eight days the former was withdrawn for a day and a half, the patient breathing easily through the larynx. Eleven days later it was withdrawn for three days, and subsequently, owing to the difficulty encountered in replacing it on each occasion of its periodical removal, a longer interval was determined upon. A cylindrical metal tube was now inserted in the larynx, with the intention of removing it in one month.

After a lapse of ten months and four days the patient reappeared; the metal tube was in position, and worn comfortably; respiration unembarrassed. The tube was only removed by force, being encrusted with coarse granules of calcareous matter. The presence of some granulation tissue caused slight embarrassment in respiration, which quickly disappeared on removal of the cause; the intubation-tube was not again introduced, respiration remaining perfectly free.

An examination of the larynx, made some months later, showed that a large cylindrical opening existed at the glottic level; no trace of the vocal cords was visible; the external laryngotomy wound appeared as a deep sulcus; the cough was toneless, and the voice, as before, a distinct whisper.

The patient, a dissolute and unreliable person, ultimately disappeared from observation, the intra-laryngeal conditions remaining the same as above noted.[2]

Class VI., Case IX. *Acute Syphilitic Stenosis of the Larynx; Perichondritis; Anchylosis of Arytenoids.*—Louise S——, aged thirty-five; shows a cicatrix at the junction of the hard and soft palates. Hypertrophy and ulceration of the ventricular bands extending posteriorly below the right vocal cord, with secondary œdema. Within six and a half months dyspnœa had become excessive and dangerous. The cavity of the larynx was occupied by swollen, reddened, mucous membranes, which rendered any identification of its individual parts impossible; on the right side, posteriorly, ulceration. A small rubber tube was introduced with difficulty and force, but imme-

[1] Philadelphia Medical and Surgical Reporter, May 14, 1887.
[2] New York Medical Record, June 5, 1886.
[3] Journal of the Respiratory Organs, February, 1890.

[1] Journal American Medical Association, May 3, 1890.
[2] New York Medical Journal, March 10, 1888.

diate relief to the dyspnœa. On the sixth day the tube, badly borne, was removed, and the laryngoscope showed marked subsidence of the acute intralaryngeal swelling with resultant free respiratory space. For the following seven months progressive improvement occurred. A lapse for two months in the regularity of the constitutional treatment was followed by a return of the dyspnœa, now seen to be due to an immobility in abduction of the vocal cords from fixation of their arytenoid cartilages.

Nine months after the first intubation a second became necessary, and during a moment of impending suffocation a medium-sized rubber tube was introduced without difficulty between the closely approximated vocal cords. Relief was immediate. On the fourth day the tube was coughed out and not replaced, the grade of dyspnœa being but slight. The laryngoscope now showed, aside from some unimportant local lesions, fixation of the right vocal cord in the median line, and immobility of the right crico-arytenoid articulation. The left vocal cord, though sluggish in abductive movement, performed its physiological functions with progressive improvement.

The conditions here described have remained unchanged more than one year since the second and last intubation.[1]

CASE X., *Chronic Syphilitic Laryngitis; Bilateral Paralysis of the Abductors.*—Mrs. G——, aged twenty-six, with a probable, but not actually proven, syphilitic history, has suffered from severe attacks of dyspnœa at intervals during the past two years. The present urgent attack had lasted fifty-six hours; the patient was comatose, with stertorous breathing. A view of the larynx, obtained with difficulty, showed paralysis of the abductor muscles of the vocal cords, with a dry and swollen laryngeal mucous membrane. Intubation, practised as soon as possible with a small rubber tube, easily introduced, gave instant relief, and was worn ten hours, when it was removed by the partially delirious patient. Two hours later a second intubation was successfully performed, and the ensuing relief lasted six hours, when the temperature rose to 104° F., respiration 60, and pulse became imperceptible. Death followed from heart-failure in the course of beginning pneumonia.

The late date in the laryngeal disease at which intubation was practised robbed the operation of its possible benefits.[2]

I have elsewhere reported (*New York Medical Journal*, December, 1878) two cases of bilateral abductor paralysis of syphilitic origin, in which the timely use of iodide of potash effected a cure. In more urgent instances intubation will not only fulfil the indications set forth in Class VII., but will afford safety to the patient during the period of administration of the drug and the establishment of its physiological and remedial effects.

I do not propose here to discuss the details of procedure, many and varied, that are essential to render the operation of intubation a success. In American literature, especially, will be found the records of a rich, practical experience, which has laid bare many faults, suggested many modifications, and taught many valuable lessons; the outcome of these, our knowledge of to-day, will be communicated to you by Dr. O'Dwyer, whose name, is so widely and justly identified with the subject, and whose large personal experience renders him most competent to perform the task.

Certain modifications of the accepted method on the child are necessary when operating upon the adult; changes in the tubes and in the rules for their use exist; to these it is necessary that I should briefly allude.

No rule can be absolute either in theory or practice. Intubation in acute syphilitic stenosis is usually readily accomplished, and, as the cases herewith prove, successfully attains its object; but the management of chronic stenosis, so varying in its nature and indications for treatment, will always require patience, perseverance, and ingenuity. Both demand a manual skill only attained by practical experience.

The operation of intubating the larynx of the adult presents certain obstacles that do not pertain to the same operation in the child. One of these is caused by the depth at which the adult larynx lies from the mouth, and the difficulty, often impossibility, of introducing the finger which guides the tube over the epiglottis or upon the arytenoid cartilages. Specially is this true in those cases where a tracheotomy-tube has been worn for a length of time and the inactive larynx does not rise to meet the finger.

Again, the very lesions which render the operation necessary in the syphilitic larynx, especially in the extreme grades of cicatricial stenosis, present a barrier to the easy introduction of the tube that does not exist in the diphtheritic larynx of the child. Not only does the exertion of considerable physical force become necessary to overcome these barriers, but much delicate manipulation, based upon a careful study of the requirements of the special case, is requisite. In order that the object of the intubation may be successfully attained, the laryngoscopic mirror may afford aid in guiding the earlier stage of introduction of the tube, but the forefinger of the left hand will always be required ultimately as a means of its propulsion into the laryngeal cavity until the thickest portion of its retaining swell has passed well below the vocal cords, in order that it may be retained as and after the "obturator" has been withdrawn; the mirror is thus necessarily relinquished. On the contrary, the laryngeal mirror will be found of service in the adult when the "extractor" is subsequently used to remove the tube from the larynx.

The large size of these tubes is no contra-indication to their use. Experience has amply shown that while the greatest variations exist in the sensibility and degree of toleration to the presence of the tube exhibited by different larynges, less danger of injury from pressure by the large tubes exists in the adult with chronic infiltration of the tissues, or stenosing cicatrices, than in the child whose larynx is occupied by the inflammatory infiltration, prone to succumb to ulcerative action of diphtheritic croup. For this reason the large tubes can be worn by the adult with more safety, less frequently changed, and retained continuously for lengthened periods.

A practical trial in individual cases will determine the exact limit of these periods; but it is safe to assume, as a general rule, that in cases requiring a tube to be long retained, specially if this be a metallic one, the points of pressure in the vestibule of the larynx shall be changed about once in two to three weeks. Erosion of the mucous membrane and exuberant granulation tissue can thus usually be prevented.

The larger head that accompanies the increase in the size of the intubation-tubes required for the dilatation of stricture accomplishes these changes until the maximum-sized tube is reached, when the points of dangerous pressure may be still further changed by slightly increasing the thickness of the head, especially upon its under surface and in a vertical direction, leaving its diameter the same. The intubation-tube is thus raised from time to time in the larynx.

Other modifications to attain the same end will suggest themselves to a mechanical genius.

Two practical points to be furthermore borne in mind are, that the series of tubes shall be used in slow and gradual progression, increasing at not more than the rate of one thirty-second inch in their antero-posterior diameter, and that much depends, in the first instance, upon the selection of a proper size to commence the series, usually the smallest that will permit of easy respiration, and one that shall fit well down in the larynx without becoming fixed or impacted, and which will therefore allow of some slight movement during the physiological act of deglutition, experience having proven that the compression of the laryngeal constrictor muscles about the head

[1] New York Medical Journal, February 22, 1890. [2] Ibid.

of the badly fitting and too movable tube during this act is a prolific source of erosion and granulation tissue.

As in children, early difficulty in deglutition is a prominent complication in the adult; the latter, however, owing to the longer periods for which the tubes are retained, usually learns to overcome it completely.

Schluck pneumonie has, thus far, not been experienced as a possible consequence in any case of intubation in the adult.

The intubation-tubes for the treatment of laryngeal stricture that I here exhibit will be seen at once to vary in many important details from the same tubes as employed in children. As at present constructed the series consists of ten tubes, the larger made of hard rubber alone; the medium sizes of brass, gold plated, and with vulcanite heads in order that their weight in the larynx may be lessened; the smaller tubes are made of metal only; a special "introducer," with long curve to compensate for the decreased length of the intubation-tube, and, as well as the "extractor," made larger and more strongly than the same instruments as used in the case of the child, complete the equipment.

Our experience is not as yet absolute, but tubes made of hard rubber will ordinarily be found to be most satisfactory and best tolerated by the patient. They are light, do not readily become impacted by the swollen tissues, cause less injurious pressure, allow of easier respiration, permit expectoration of the accumulated secretions, and are therefore less liable to become occluded, do not erode nor invite the deposit of calcareous matters, as metal ones do. For these reasons they are probably best fitted for prolonged sojourn in the larynx.

I have selected one of the most stirring and practical questions of the day concerned with syphilis of the throat, and one on which there is, at this time, good reason to expect progress from very wide discussion. The chief need seems to be the collection of facts well observed by many persons. By many, not only because many facts are wanted, but because in all new research it is well that each apparent fact should be observed by many.

Errors that I may have made in my conclusions will have their utility, for errors, like doubts, serve to bring out the truth and show its value. Certainly we may look for the attainment of some novelty and change in our present knowledge concerning the treatment of acute and chronic syphilitic stenosis of the larynx, and after every such change there must ensue a change in some of the conditions of thinking and working. To effect these changes, and in favor of intubation, has been the object of my task.

TWO CASES OF PERITONEAL HÆMATOCELE OF UNUSUAL DIMENSIONS TREATED BY ABDOMINAL SECTION.[1]

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During the past eighteen months three cases of large peritoneal hæmatocele have come under my observation, two of them retro-uterine, one ante-uterine. Two of them appeared to me worthy of record on account of the very large size of the blood-tumors and their treatment by abdominal section. Incidentally, the verification of the condition by the treatment adopted proved of interest as placing the diagnosis beyond a doubt.

Case I.—Philomena M——, aged twenty-eight, married at twenty-four. One year after marriage she gave birth to a dead child at the end of the eighth month of utero-gestation. Fifteen months later she was delivered of a living child at term.

Menstruation has always been regular, lasting four to five days, up to December, 1888. On the seventh day of that month a period was due and came on as usual. The flow, however, ceased at the end of the first day. Two weeks later, on December 21st, she was taken with sudden metrorrhagia, chilly sensations, fever, and severe abdominal pains. The abdomen at the same time rapidly enlarged. She came under my care on January 16, 1889. Her general condition seems good; she is well nourished, and not at all anæmic in appearance. The abdomen is distended to the size of a nine months' gestation by an irregularly shaped, distinctly fluctuating tumor, with rather indistinct outlines. The larger portion of the tumor is situated to the left of the median line. Circumference of waist, forty-seven inches.

The lower end of the tumor can be reached with some difficulty from the vagina, high up above the left vault. Uterus appears slightly enlarged; it is displaced forward and slightly to the right.

The tumor fills the entire abdomen with the exception of the right lumbar region, the right hypochondrium, and the epigastrium. In the left hypochondrium the dulness is continuous with that of the spleen, in the left lumbar region with that of the left kidney. In the middle line the tumor reaches as high as the lower end of the sternum.

Exploratory puncture through the abdominal walls, at two widely distant parts of the tumor, yields a dark-red, serous fluid. Under the microscope this fluid is found to contain a few crenated blood-corpuscles, about twice as many leucocytes, a few isolated epithelial cells, and a large number of fat-corpuscles. Examination of the urine gives negative results.

The results of the microscopical examination pointed directly to hæmatocele. Against that diagnosis stood the blooming appearance of the patient, and the enormous size of the tumor. A hæmatocele of this size has, to my knowledge, never been described. A cystic tumor of the left kidney, or of the left ovary, with intracystic hemorrhage, was considered the more probable diagnosis. The large number of fat-cells found on microscopical examination led me to lean to the diagnosis of cystoma of the left ovary, partly, at least, dermoid in character.

The pressure symptoms caused by the large size of the tumor called for relief, and on January 22, 1889, assisted by my colleague, Professor John H. Ripley, I performed abdominal section.

An incision was made in the median line, commencing one inch above the umbilicus, and extending six inches in a downward direction. Upon incising the peritoneum we at once entered a large cavity filled with the bloody fluid above described, of which four and one-half to five quarts (4,300 to 4,700 c.c.) were evacuated. The recesses of the bottom of the cyst were filled with a dense sediment composed of red blood-cells. The reason why so few red blood-cells were met with in the examination of the fluid removed by exploratory puncture was now apparent. With the patient lying on her back the blood-cells gravitated toward the deeper portions of the cyst, beyond the reach of the exploring needle. The sediment of blood-cells was scooped out with the hand and flushed out by free irrigation with sterilized water.

The walls of the cyst were formed anteriorly by the abdominal parietes; above, on both sides, and posteriorly by coils of intestine glued to each other by firm and thick adhesions; inferiorly, by the pelvic organs. The interior of the cyst-wall was everywhere lined by a layer of coagulated fibrin one half to one inch in thickness. The uterus, slightly enlarged, could be distinctly felt through the cyst-wall, displaced forward and slightly to the right of its normal situation.

The cyst-cavity was thoroughly irrigated until the fluid returned clear. Two rubber drainage-tubes, each half an inch in diameter, were inserted through the lower angle of the wound. The rest of the wound was closed with silkworm-gut sutures.

Patient rallied well. The cavity was irrigated twice daily with sublimate solution, 1 to 5,000, and rapidly di-

[1] Read before the Gynecological Section of the Tenth International Medical Congress.

minished in size. At various periods very large patches of the fibrinous layer became detached from the interior of the cyst-wall and were extracted through the abdominal opening.

February 20th.—While the cyst was being washed out patient suddenly went into collapse. This was followed by an enormous gush of blood from the vagina. Examination showed the cervix dilated; the finger passed within discovered the presence of a fœtus of about three and a half months. As prompt interference was necessary to check the alarming hemorrhage two fingers were passed into the uterus and the placenta entirely detached from the uterine wall. Thereupon the bleeding ceased, and labor pains came on. Twelve hours later the fœtus was found in the upper part of the vagina and removed.

On February 27th the patient left hospital for home, with a small drainage tube still *in situ* in the almost-obliterated cavity of the hæmatocele. The patient disappeared from observation and I have been unable to learn anything of her since.

Case II.—Annie J——, aged forty-two, married, has always menstruated regularly and painlessly since the age of seventeen. Duration of flow seven days. She was married at twenty-two, had one miscarriage in 1889, and gave birth to six living children. Date of last confinement, as well as of beginning of present illness, March 13, 1890.

Patient and her husband are both very unintelligent, and the history obtained was not at all as clear as desirable. The following are the facts, as far as I could elicit them: Our patient has not felt well since her last confinement. The abdomen did not return to its normal size, but remained swollen and somewhat tender. Pain on voiding urine and obstinate constipation were the other prominent symptoms. For two days after the birth of her child she passed clotted blood. Then the bleeding ceased entirely and did not return until May 13th. On that date a vaginal hemorrhage appeared which she regarded as a normal period. Instead of lasting seven days, as usual, the flow suddenly ceased on the second day. Coincident with this, the large abdomen enlarged still further, with return of the abdominal pain formerly experienced. On May 17th she came under my care.

Patient looks anæmic and wears a set, anxious expression. Pulse rapid, 100 to 110; temperature normal. The abdomen is distended by a distinctly fluctuating tumor, filling its lower and central portions, and reaching upward, in the sitting position, to a point four inches above the umbilicus, and two inches below the xiphoid cartilage.

The outlines of the tumor are indistinctly defined. It is nearly circular in shape, mesial in situation, and twelve inches in diameter. Patient measures thirty-four inches around chest, forty inches around waist. Per vaginam the tumor can, with very great difficulty, be reached anteriorly and high up on the left side. Through the left vaginal wall a structure resembling a normal ovary in size and consistence can be distinctly felt applied against the inferior aspect of the tumor. Cervix large and patulous, in approximately normal position. The uterus lies retroverted, with the fundus turned slightly to right, along the inferior and posterior aspect of the tumor. The sound enters to the depth of three and one-half inches. The tumor is ante-uterine, occupying the peritoneal fold between bladder and uterus.

Exploratory puncture at two points of the tumor distant from each other yields, at both places, fluid of a deep Burgundy-red color. Microscopical examination shows an abundance of red blood-corpuscles in a shrivelled condition, with a few leucocytes and epithelioid scales.

Diagnosis, ante-uterine peritoneal hæmatocele. The tumor having lately increased in size, and the pressure symptoms being urgent, laparotomy was proposed, accepted by the patient, and performed on May 24, 1890.

A small incision, one and one-half inch long, was made in the median line, just below the umbilicus. After opening the peritoneum a semi-organized layer of blood and coagulated fibrin, one-fourth to one-half inch thick, was encountered, lining the interior of the peritoneal sac, and loosely adherent to the latter. It was just firm enough to permit of suturing it with catgut to the edges of the peritoneal wound. A curved trocar was then plunged through the fibrinous layer and eighty-six ounces (2,543 c.c.) of bloody fluid were evacuated. The trocar opening was enlarged by the finger and two handfuls of quite recent blood-clots were turned and washed out. No macroscopical evidence of an ovum or fœtus was encountered. The layer of coagulated, dark-red fibrin was found to completely line the interior of the cyst-cavity. The upper, lateral, and posterior walls of the latter were formed by the lower surface of the mesentery, and by intestinal convolutions firmly adherent to each other. Below, the left ovary could be felt through the sac-wall in its normal situation, as also the uterus displaced posteriorly and somewhat to the right. The right ovary could not be felt.

After thorough irrigation a double rubber drainage-tube was inserted into the cavity and the small abdominal wound closed around it. Two days later the dressings were changed and the drainage-tubes removed.

The fluid gradually reaccumulated until the abdomen was distended almost as greatly as before operation. On June 7th the wound reopened, and a gush of thin red fluid was discharged. The wound then closed again, to be reopened by over-distention two days later. This process was repeated a number of times from June 7th to June 24th, the bloody serum reaccumulating until the pressure separated the lips of the abdominal wound and the distention was temporarily relieved by the escape of the excess of fluid. During all this time strict asepsis was maintained, and the patient's temperature never went above the normal.

On June 24th I reopened, under ether, the entire length of the abdominal wound. I then passed my finger into the cyst and along its anterior wall to the left. Here, four inches from the median line, upon the finger-tip as a guide, I made an incision one inch long through the abdominal wall into the cyst-cavity. This procedure was repeated on the opposite side, making a third opening into the cyst-cavity, four inches to the right of the median line. The evacuated fluid, of a lighter red color than at the first operation, measured about seventy ounces (2,070 c.c.). It contained no fresh coagula, nor anything indicating that a hemorrhage had occurred since the first operation. The fluid seemed to be mainly a secretion from the cyst-wall, which on its way to the interior of the cyst, through the deep red fibrinous layer, abstracted sufficient coloring matter from the latter to give it a decidedly red tinge. This supposition was strengthened by the appearance of the fibrinous coagula lining the cyst-wall. Whereas at the first operation they were deep red, almost black in color, they now presented a colorless and blanched appearance.

A large quantity of this fibrinous layer was stripped off by the fingers and removed. Two drainage-tubes were carried, one from each lateral wound, through the hæmatocele along its anterior wall, and out at the central incision—so that one end projected from each lateral, and two from the central opening. To prevent the drains from slipping in, the ends of each were fastened together across the intervening integument by a strand of silkworm-gut. The abdomen, which before operation measured forty inches in circumference, now measured thirty-two inches.

Less and less fluid was evacuated through the drainage-tubes daily, until July 2d, when the drains were finally removed. The lateral openings through the abdominal parietes closed immediately. A small fistulous track, discharging a small amount of pus remained in the abdominal walls at the site of the median incision. As it did not extend into the abdominal cavity, it was expected to

close very soon. Abdomen did not refill, the intestines coming up well against the anterior abdominal wall, as denoted by the percussion note, and the patient was discharged, cured, July 15th. Two weeks later all the openings were found firmly closed.

Antisepsis, or rather asepsis, was carefully maintained throughout the entire progress of the case. The patient's temperature remained absolutely normal from the date of first operation until the day of discharge.

As already stated, I have thought it worth while to place on record these two cases of hæmatocele on account of the great size attained by the tumors, and because in both the diagnosis was verified by operation.

One was retro-uterine, extended upward to the processus ensiformis of the sternum, and contained over nine pints (4,300 c.c.) of fluid. The patient measured forty-seven inches around the abdomen. This constitutes a larger hæmatocele than any of which I have been able to find a record.

The other was ante-uterine, extended to four inches above the umbilicus, and contained eighty-six ounces (2,543 c.c.) of bloody fluid. The patient measured forty inches in circumference at the waist.

In fifteen of Voisin's cases the tumor was six times four finger-breadths below the navel; six times three finger-breadths below the navel; two times one finger-breadth below the navel; one time five finger-breadths below the navel; and in one case even two finger-breadths above the navel.[1]

T. Gaillard Thomas:[2] "Abdominal palpation will reveal the presence of a hard mass which may extend only up to the superior strait, or as high as the navel."

A. Martin[3] and L. Tait[4] make no allusion to the size that may be attained by hæmatoceles.

C. Schroeder:[5] "Nimmt man die äussere Untersuchung vor, so fühlt man entweder in der Mittellinie oder am häufigsten links, seltener rechts, einen rundlichen, über die Symphyse hervorragenden Tumor, der unter Umständen bis zur Nabelhöhe hinaufreichen kann."

Ely van de Warker:[6] "These (hæmatocele) cavities are of a great variety of forms and have a capacity of one-half pint to five pints." No other allusion is made to their size.

T. A. Emmet:[7] "When a hæmatocele is formed within the peritoneal cavity it may slowly enlarge and extend out of the pelvis, on the side of rupture, to above the line of the umbilicus." Emmet, however, does not describe or refer to a case of the kind.

A. J. C. Skene:[8] "Abdominal palpation, made after the tympanitic distention has subsided, will often show the mass extending to the superior strait, and even higher, and in one case that I saw the blood-clot extended upward half-way to the umbilicus."

J. Mathews Duncan:[9] "A large, prominent swelling occupied the whole of the lower half of the belly, extending up to within two inches of the umbilicus."

Charles West[10] describes "a tumor (hæmatocele of left side) extending three inches above the umbilicus, reaching about two inches across the mesial line, although gradually sloping downward, so that on the right side its upper margin was an inch and a half below the umbilicus." And again, "a tumor, the surface of which was slightly uneven, occupying the whole of the left side." In this latter case, which ended in recovery, the circumference of the abdomen measured forty-six inches. It shrank to forty inches on leaving hospital.

F. E. Beckwith[1] writes: "Barnes records one case which contained 946 c.c. (2 pints). Duncan tapped below the umbilicus and drew off 3,401 c.c. (115 oz.) of lymphy blood, the case ending in recovery. I have drawn off per vaginam 828 c.c. (28 oz.) from one situated behind the uterus, the case ending in recovery."

The above quotations, although by no means exhaustive, will serve fairly well to indicate the size of the largest peritoneal hæmatoceles that have been recorded.

I do not believe that the amount of fluid contained in either of my two cases above narrated represents exactly the quantity of blood actually lost. On the contrary, I am of the opinion that the clinical histories, both before and after operation, warrant the belief that a great, if not the greater, part of the fluid was made up by serous effusion from the irritated peritoneum forming the cyst-wall. We know that a subacute peritoneal inflammation usually follows the effusion of blood into the peritoneal cavity. This peritonitis is conservative, gluing together the intestines, encapsulating the blood already effused, and by pressure upon it tending to check further hemorrhage. Under ordinary circumstances the peritoneum in contact with the effused blood forms the best possible surface for the absorption of the latter; but when the peritoneal irritation exceeds a certain limit, instead of peritoneal absorption peritoneal effusion takes place and adds to the bulk of the tumor.

This certainly appeared to be the case in both the above instances. After a perfectly aseptic operation the fluid in one case continued to form and discharge though the drainage-tubes for five weeks. In Case II. the hæmatocele was thoroughly irrigated and emptied, and the abdominal wound practically closed two days after operation. In twelve days the fluid had reformed in almost the original quantity and burst open the abdominal wound. This reaccumulation and discharge continued for seventeen days longer, when the second operation demonstrated the absence of hemorrhage following the first laparotomy, and thus proved the fluid to have been derived by secretion from the cyst-wall.

In regard to the treatment of the larger hæmatoceles that come under our care, I feel that the question cannot be considered as positively settled—in other words, that no hard-and-fast rules of treatment applicable to every case can be laid down.

Much depends, in my opinion, upon the certainty of diagnosis in each particular case, and upon the tendency exhibited by the tumor to increase or decrease in size. When the tumor shows a tendency to diminish in size, the more we leave to nature and the less we do ourselves, the better for our patient. The perfect absorption and disappearance of even large blood tumors has been observed again and again, and is illustrated in the subjoined Case III.

When the tumor, instead of decreasing, keeps on gaining in size, active interference is called for. Where, as in Case II., the diagnosis can be made with great positiveness, and where percussion demonstrates that the tumor reaches well up against the anterior abdominal wall, I would be inclined to advocate evacuation of the fluid contents of the tumor by the aspirator, followed by firm compression of the abdomen. With a perfectly sterilized aseptic needle, with careful asepsis of the abdominal parietes and of the operator, I do not believe this procedure involves the least danger. The disastrous results recorded as following this simple procedure were due to the methods prevailing in the preantiseptic era, or to want of sufficient care to secure asepsis in more recent times.

If the fluid reaccumulated after the first evacuation by the aspirator, I should be inclined to repeat the aspiration a second and a third time. When repeated refilling demonstrates the futility of further continuance in this course incision and drainage are clearly indicated.

Where the tumor reaches the anterior abdominal wall,

[1] Quoted by L. Bandl in Cyclopædia of Obstetrics and Gynecology, edited by E. H. Grandin, vol. xii., p. 189.
[2] Diseases of Women, 1872, p. 477.
[3] Pathologie und Therapie der Frauenkrankheiten, 2. Auflage, 1887.
[4] Diseases of Women and Abdominal Surgery, 1889.
[5] Die Krankheiten der Weiblichen Geschlechtsorgane, 8. Auflage, p. 477.
[6] American System of Gynecology, edited by M. D. Mann, vol. i., p. 748.
[7] Principles and Practice of Gynecology, 1879, p. 241.
[8] The Diseases of Women, 1889, p. 600.
[9] Clinical Lectures on Diseases of Women, 1880.
[10] Diseases of Women, 1858, part ii., p. 336.

[1] Reference Handbook of the Medical Sciences, edited by A. H. Buck, vol. iii., p. 451.

I should always prefer to open through the latter, rather than through the vagina, inasmuch as I would feel more certain of being able to maintain asepsis of the tumor contents. In both of my cases the tumor, if at all, could have been reached from the vagina only with the greatest difficulty.

When, as in Case I., the diagnosis is in doubt, and the urgency of the symptoms calls for interference, laparotomy is the only course to be considered. This will enable us to clear up the diagnosis and at the same time to apply the proper measures called for by the nature of the case.

By way of illustration of the rapidity and thoroughness with which the natural powers of absorption, unaided, often dispose of even large accumulations of blood in the abdominal and pelvic cavities, I append the following:

Case III.—Mrs. Mary M——, aged thirty-six, married and the mother of thirteen children, came under my care March 29, 1890.

On June 14, 1889, she gave birth to her last child. Menstruation returned in November, 1889, and recurred regularly until February, 1890. On February 15th, on the third day of a period, the flow suddenly stopped. One week later she began to flow again, and lost a considerable quantity of blood daily for the next five weeks, when she came under my care. I may here add that this hemorrhage continued until April 3d, when it ceased spontaneously.

Patient, however, barring the hemorrhage, had nothing especial to complain of until March 27th. On that day she began to feel pain in the rectum, near the anus, and in the lower part of the back. She was unable to sit with comfort, and was harassed by a bearing-down sensation, a constant desire to defecate, and a sensation as of a weight in her pelvis. Pain on micturition and diminution in the amount of urine were also noticed. Urine is of a pale amber color, specific gravity 1.014, acid, and contains granular casts.

Examination reveals a large fluctuating tumor occupying Douglas's sac. It reaches downward to within two inches of the perineum, and extends upward to within one inch of the umbilicus. The uterus is crowded forward against the pubis by the tumor. Exploratory puncture per vaginam yields blood. Diagnosis, large retro-uterine hæmatocele.

During the following two weeks the tumor diminished rapidly in size from day to day. A slight and steady elevation of temperature and free diuresis accompanied the process of absorption, constituting the condition known as sapræmia.

April 20th.—Tumor almost entirely absorbed, a slight retro-uterine thickening being all that can be felt.

May 2d.—Entire disappearance of tumor. Absolutely nothing left to indicate its former presence.

The patient received absolutely no medication of any kind, not even a placebo. Her large retro-uterine hæmatocele was absorbed by the unaided powers of nature in from four to six weeks.

198 Second Avenue.

MICRO-ORGANISMS AND LEUCOCYTES—OUR PRESENT STATUS AS TO EACH.

By EZRA M. HUNT, M.D., LL.D.,

Secretary State Board of Health, N. J.

Whatever may be the diversity of judgment as to the relations of micro-organisms and of leucocytes to disease or health, no one can have failed to note great changes of view and what we must at present regard as real progress of doctrine. Some of these changes may be briefly noted as follows:

(*a*) When micro-organisms began to be recognized as having some relations to disease, they were not recognized as having equally important relations to health. Most of the prominent bacteriologists now concede that there are three separate studies of micro-organisms, viz., those which relate to the benign organisms in their conservative and indispensable relation to health, those which relate to septic or saprophytic organisms in their relations to decaying matter, and those which relate to pathogenic organisms in their specific relations to disease.

Each of these has already developed wonderful lines of study, but not enough as related to each other, or in due proportion, since more attention has been concentrated on pathogenic micro-organisms than upon the others.

Next, the study of the products of micro-organisms has become of very great importance. In relation not only to ptomaïnes and leucomaïnes but also in all the wide field of vital and chemical changes, we do not yet know how much results from products or how far these results are dependent upon individual and local conditions. M. Bouchard, in his Berlin address on "The Mechanism of Infection and Immunity," says that the anti-bacterial condition is not a dynamic or vital, but a chemical quality of normal, healthy blood, which unfits it for being a life-medium for bacteria.

(*b*) Next, the positiveness as to the number of diseases which are caused by micro-organisms, and especially by pathogenic forms, is undergoing marked change. Take such recent authorities as De Bary, Klein, Koch, Sutton, Crookshank, Vaughan, etc., and we find that the specification of the diseases of which the specific organism is known is both narrowed and varied (see article, *Medical News*, March 17, 1888). Since that record Dr. Koch, in his address at the International Medical Congress, specifies as settled only anthrax, tuberculosis, and erysipelas. Sir W. Foster, at the recent meeting of the British Medical Association, puts anthrax and relapsing fever as the two diseases in which we know a specific micro-organism, and tubercle and cholera as probable. Sutton would include glanders, and Vaughan, as we shall hereafter note, shows the probable origin of many so-called specific diseases from various micro-organisms instead of any one singly. Crookshank raises the question, long since incidentally raised by Sir William Jenner as a practitioner, whether what is attributed to specific micro-organisms is not mostly, if not entirely due to septic varieties. The recent paper of Professor Vaughan, of Michigan, on "Some New Bacterial Poisons," *Medical News*, August 16, 1890, we regard as a most important contribution to the literature of medical bacteriology. While recognizing that cholera infantum, for instance, is related to the presence of germs, he also claims that "the number of varieties and species is confusingly great, with no constancy in the presence of any of them. . . . These germs, which differ from one another sufficiently to be classified as different species, form poisons, which also differ in chemical properties, but which produce the same symptoms and post-mortem appearances."

We believe a great modification of belief is probable as to the relation of this or that particular or specific germ to the causation of communicable diseases.

(*c*) Nor are bacteriologists speaking with their former positiveness as to the probability that the exanthemata and other diseases, such as influenza, pneumonia, etc., are dependent upon a specific microbe. There are strange facts as to the relation of the microbe of erysipelas to diphtheria (Prudden, etc.), and as to what Koch would call "deviations of demeanor," but what others would call varied organisms (see Klein, Crookshank, Sutton—in "Evolution and Disease," Scribner, 1890—Vaughan, etc.).

Dr. Koch raises a question as to the probability of bacteria being the cause of malaria, yellow fever, pleuropneumonia, whooping-cough, etc. He also doubts whether hydrophobia and Pasteur's inoculations belong to bacteriology, although "grown on its soil."

Those who have been so sure that the finding of causal and specific bacteria in all contagious diseases was only a question of time, and have confidently predicted such an origin of pneumonia, influenza, etc., must see that there

is lately a decided spirit of "judicious scepticism." The fact that so many diseases not found to be parasitic are communicable, and that so many found associated with micro-organisms are not, is leading to greater guard in asserting the *materies morbi*. As one expresses it, "It is by no means certain that a pathological medium is created, but the microphyte selects one ready to hand."

It is somewhat peculiar, also, that just at this time, amid the tendency to increase the catalogue of communicable diseases, there seems to be cumulative evidence that diseases once regarded as contagious may not be so. Thus, besides the testimony as to the non-contagiousness of leprosy from various other sources, we have the experiments and long experience of Dr. Beaven Rake, Superintendent of the Trinidad Leper Asylum. In his annual report for 1889 he says that he is not prepared to admit that leprosy is contagious in the ordinary sense of the term, and answers various evidences to the contrary that have been alleged.

(*d*) We also think that there is some progress toward the belief that forms of pathogenie micro-organisms are not necessarily original or immutable, and that environment, both within and without, has great influence. Although Dr. Koch says it has been ascertained that one form of bacteria is not transformed into another, this prevalent view is by no means so settled as it has been or as he would indicate.

We think J. Bland Sutton ("Evolution and Disease," 1890), who shows such accurate and intelligent ability as a student of life in its varying forms, is nearer the truth when he says, "The history of micro-organisms shows clearly enough, as in the case of animal parasites, that pathogenic bacteria have been slowly evolved from non-pathogenic forms and have slowly acquired the power of flourishing upon living bodies when the environment is suitable." No doubt many of them have become so specialized, like the gentian's among plants, as to have all the permanency of non-pathogenic forms, but not so with very many. The possibility of reversion under discouraging environment is more hopeful than relief by vaunted germicides. No one can have followed closely the various preventive inoculations of Pasteur, or the facts as to kine-pox, horse-pox, and variolation from man, recently brought out by Crookshank (all of which seem to prevent variola), without suspecting that new facts are still to break forth as to the origin and behavior of micro-organisms under different environments or amid the presence of varied vaccines. "The more," says Sutton, "these questions are studied the more we perceive that the outbreak of infectious diseases depends not so much upon the presence of micro-organisms—for like the torula they seem to exist everywhere—as upon the existence of suitable conditions; and as yeast cannot grow and multiply without sugar, neither can the poison of erysipelas, typhus, relapsing fever, and the like propagate without the presence of some substance produced in living bodies, of the nature of which we are ignorant" ("Evolution and Disease," 1890, page 225).

Rodet and Roug, from their studies of Eberth's bacillus, conclude that, while found in enteric fever, it is only a degenerate form of the bacterium coli commune which is constantly present in the healthy intestine. Those of us who have long held to the occasional *de novo* origin of typhoid fever are finding new evidence of its probability.

We are aware with what positiveness some bacteriologists reject this view of change amid environment, but not so the biological naturalist and various practitioners who have opportunities for the study of infective diseases where there are better opportunities for localization and study of environment than in cities and hospitals, and where a thorough knowledge of chemistry and botany throws light upon the laws of life.

(*e*) Although an early result of the germ theory was also a therapeutic theory as to curing diseases by germicides, it has become quite apparent that this assertive practice has been relegated to the rear. As a recent editorial in the *Medical News* says, "Germain Sée and Journon admit that all endeavors to find a parasiticide which would destroy the bacillus tuberculosis and allow the patient to live have proved futile. Creasote is the only medicament which has retained the slightest credit in this direction, and it is extremely doubtful whether even this has any direct influence whatever upon the life of the microbe. When it has a good effect, this is to be attributed to the favorable influence which it exercises upon the character of the secretions. The problem, therefore, is reduced to the best means of rendering the tissues invulnerable." This latter clause is really an admission that the microphyte does not create the pathological medium but selects it. While, however, it is not probable that medication by germicides will hereafter be sustained, there is still hopefulness in attempts to prevent disease by the use of a class of remedies that are aseptic. There are some reasons for believing that iron, potassium chloride, creasote, and various other medicaments interfere with the processes of disintegration and so prevent or arrest the development of some diseases. It is one thing to claim this action as germicidal, and another to recognize the inhibiting influence of certain medicines or of certain nutritive and hygienic measures.

Next we note the study of leucocytes as related to micro-organisms and the progress in this direction.

For some time after the discovery of the white corpuscle there were very indefinite views as to its origin, its mode of production, and the service done by it either in physiological or pathological conditions. One by one new facts have been elicited, some of which may be said to be settled. So far as their relation to micro-organisms is concerned, they have come to be regarded as playing some important part after their escape from the capillaries. Their relations to inflammation and fever, and their active participation in diseases such as those occurring about the tonsils, where they are present in abundance, is maintained by many pathologists.

The more recent experiments and opinions of Metschnikoff seem to us to have thrown new light on the subject. It is true that Dr. Koch in his Berlin address says that the opinion that the white blood-corpuscles resist the bacteria is more and more losing ground.

On the other hand, Sir Joseph Lister, on the same occasion, emphasized "the scavenger cells or phagocytes discovered by Metschnikoff; the white blood-corpuscles which envelop parasitic intruders and render them harmless." While Ziegler and Graewitz give more prominence in inflammation to tissue corpuscles as distinct from the exuded leucocytes, they do not explain away the facts as to the actual conservative work done by the leucocytes upon septic or pathogenic micro-organisms.

The whole subject is well presented in Chapter X. of the book of Sutton already alluded to. The whole chapter, as a convenient statement of doctrine, will well repay perusal. We only quote that part relating to these white corpuscles or leucocytes and micro-organisms: "This aggressive behavior of leucocytes to foreign bodies is extended to such unwelcome guests as pathogenic bacteria. When micro-organisms effect an entrance into an animal the leucocytes attack and attempt to destroy them, and the details of such amœbic warfare may be described from attacks actually witnessed by Metschnikoff in the water-flea (daphnia). This observer kept many of these interesting transparent creatures in a tank, and noticed that they became affected with spores, which gained an entrance into the body of the crustacean, germinated, and were dispersed by the blood over the body (in daphnia the blood circulates in lacunar spaces) and deposited in those parts where the blood moves slowest, viz., in the cephalic and hinder portions of the mantle cavity; in these places heaps of conidia collect. In the meantime the leucocytes do not remain idle against the invasion, but attack and devour the conidia, take them into their interior and digest them. If a conidium be too much for

one cell others join it, form a giant-cell and thus struggle with the invader. Should the leucocytes overpower the spores, the daphnia lives; if not, the conidia overrun the crustacean and death is the result.

"A similar process takes place in animals more highly organized, and as no disease illustrates more thoroughly the defending power exercised by leucocytes than that known as avian tuberculosis, the leading points in this widespread affection will be briefly considered. Tuberculosis in man is unfortunately very prevalent, but in birds, especially those which live on grain, it is more common than in human beings. On examining a bird which has died of this disease we find the liver and intestines presenting numerous rounded nodules of a pale yellow color, varying in size from a pin-point to that of a filbert. On cutting into the larger nodules the centre is found occupied by pus. The smaller ones are homogeneous, and on examining them microscopically we recognize in the centre small circular cells with larger ones—giant-cells—lodged among them, outside these a layer of smaller cells with no giant cells, and lastly a layer of fibrous tissue.

"When such specimens are suitably stained, minute rod-like bodies—bacilli—are seen clustered in the centre of the mass and occupying the interior of the cells, especially the giant-cells. In nodules of moderate size the centre is occupied by caseous material surrounded by a zone of cells containing bacilli. Adjacent nodules may coalesce and thus produce large masses. The blood-vessels connected with the nodules frequently present clusters of bacilli in their interior. An extensive and prolonged study of this disease has convinced me that the bacilli, from whatever source arising, are introduced into the alimentary canal and find their way into the walls of the bowel. Here they are attacked by the leucocytes, which surround, ingest, and destroy them. The bacilli may be too numerous for the leucocytes, and the point were the bacilli gain entrance into the tissues becomes a battle-field; large numbers of leucocytes are quickly on the spot, and reinforce their comrades; as a result of this encounter many of the leucocytes die, others fuse together and form giant-cells; the dead leucocytes form pus-cells and give rise to the caseous centre in the nodules, while along its confines, in the bacilliferous zone, the conflict continues to rage. The giant-cells are powerful antagonists, for I have seen one contain as many as fifty bacilli. From these nodules the bacilli are conveyed by blood-vessels, or even carried away by the leucocytes, and initiate new struggles in distant parts. It must also be remembered that, after their introduction into the body, the bacilli will, if the conditions of the host be favorable, multiply very rapidly, and in due course overrun the whole system—nodules arise in the liver, lungs, brain, and skin, function is interfered with and death results. In addition to the local troubles the invasion of an organism by bacteria produces general disturbances, one of the most important being an increase of the temperature of the body, usually termed fever."

The presence of certain proteids antagonistic to harmful proteids in the blood or tissues also aids in this work.

We deem it important, especially, that practitioners of medicine should realize how views are being thus modified as to microphytic diseases, and how much of what is discussed by some as if known is still in the range of speculation. It is all the more important because practitioners, while responding to all real proof as to contagion and need of isolation, disinfection, etc., are now beset by ultra-contagionists, who prescribe a degree of manipulation and isolation wholly impossible in general practice, and which does not actually prevent the presence of bacteria. Rigid conformity to real facts must be sought, but some do not seem to realize that there are many ill results from the agitation or enforcement of restrictions founded upon incomplete evidence.

Who shall decide when doctros disagree? The coroner.

Clinical Department.

THE TEPID BATH AS A SEDATIVE IN YOUNG CHILDREN.

By BOARDMAN REED, M.D.,

ATLANTIC CITY, N. J.

In the Medical Record of September 13th there was reported a case of hyperpyrexia treated successfully by the tepid bath. The cure was prompt and striking, but the measure resorted to was not a novel one for the purpose of reducing high temperature. It occurred to me, however, during the past summer, to administer tepid baths to infants suffering from entero-colitis, with the extreme restlessness and pain which often accompany that affection. I was led, at first, to try this remedy because of the failure of all usual methods of controlling pain and restlessness in the case of a sick child. Below is a brief report of this case:

Case I.—An infant, aged eight months, was sent to Atlantic City in the early part of July on account of entero-colitis of several weeks' standing. The child was much emaciated, had a temperature of 100° to 101° F., and besides considerable diarrhœa was suffering more or less every day from severe attacks of what seemed to be colic. The family physician at home had ordered a mixture which I found to contain an unusually large dose of opium for so young a child. I inferred from this fact that the child had been suffering long and acutely, so that smaller doses of the opiate had failed. I permitted the same mixture to be resorted to whenever very severe pain should recur.

Not long after the case came into my hands the mother, in the middle of the night, sent a messenger to me with a note stating that the child was having terrible attacks of pain which nothing would quiet. I sent a quarter-grain tablet of morphia, with instructions to dissolve it in eight teaspoonfuls of water, and give one teaspoonful every hour until the pain should be quieted. Next morning, at ten o'clock, I found the child had taken nearly all of the quarter grain of morphia and yet the pain had not been fully quieted. It had slept an hour or two, but awoke again restless and uneasy. Not caring to give any more narcotic medicine at that time, and fearing that the child might go into convulsions, I ordered a tub half full of warm water to be brought in and had the child given a bath. The water was at a temperature of about 90° F. While the child was immersed in it, I had its head kept cool by cloths wrung out of cold water. The effect was magical.

Within ten or fifteen minutes the child quieted down, and on being taken from the bath fell off into a quiet, healthful sleep which lasted several hours. The diarrhœa was improved at the same time, and the little patient, from that time, began to get well. The mother and nurse having learned the value of the tepid bath, resorted to it afterward whenever the child was threatened with one of its "colic" spells. Within a week or two from the time of the first bath the little one had entirely recovered from the attack of entero-colitis. During the past summer I have resorted to the same measure in several other cases, and nearly always with like excellent results.

Dr. William Blair Stewart, of Philadelphia, who has been associated with me in practice during the summer, has also found the tepid bath a useful resource in cases of pain and cerebral complications associated with bowel complaints, and has kindly contributed to this article one particularly striking case, which will be found below:

Case II.—On July 11, 1890, I was called to see a little girl, aged fourteen months, who had been suffering from an attack of true cholera infantum for several days. The child had been treated with home remedies by its mother and grew steadily worse. From the mother's statement I learned that the attack began with violent vomiting, purging, and fever. The child became pale and weak, and when I saw it, two days after the onset of the attack, it

was lying in a comatose state with a temperature slightly above 101° F. A bath of about 90° F. was ordered and the child was immersed in it to the neck. At the same time cold water was applied to the head and a mustard plaster to the back of the neck. The bath was continued for about fifteen minutes. By this time a great change had taken place, for the child had roused up from its stupor and appeared much brighter in every respect, and had a temperature about normal. It was wrapped in a blanket to prevent its taking cold, and fell off into a calm sleep. After-treatment consisted of one-hundredth-grain doses of calomel and ipecac, with one-quarter-grain doses of the sulpho-carbolate of zinc. Diet was regulated, and the child recovered in the course of one week and is now a strong and thriving baby.

The above cases show that baths may be made especially useful in some of the acute diseases of children, and that tepid baths, under proper precautions, may exert a very marked sedative influence. Every practitioner knows the dangers of opiates when pushed unduly in the case of young children, and especially the risks involved in intrusting such medicines to inexperienced and excitable nurses. I am now fully convinced that the tepid bath is a most efficient sedative, particularly when there is cerebral irritation, and that it is probably at least as sure as any of our ordinary anodyne remedies in the control of abdominal pain in young children, after the bowels have been thoroughly opened so as to remove offending causes such as partly digested food.

In treating babies with indigestion, or any of the ordinary forms of intestinal disease, I always provide for thoroughly emptying the alimentary canal, at least once in two or three days, by giving a light dose of spiced sirup of rhubarb or other suitable mild laxative. Hereafter, when this has been attended to, and the pain, fretfulness, and restlessness persist, I shall direct prompt resort to the tepid bath.

A SIMPLE SUBSTITUTE FOR BELLOCQ'S CANNULA AND ALL OTHER METHODS FOR CONTROLLING EPISTAXIS.

By W. W. PARKER, M.D.,

RICHMOND, VA.

The plan of arresting hemorrhage from the nose, which I here describe, I have used for thirty years without one failure. When I first began practice I used Bellocq's instrument, but I found it painful, and, in small children, exceedingly troublesome of application. Two months ago a man, twenty-three years old, in this city, was operated upon for irregular septum (a small part of the bone was removed), which was followed by troublesome hemorrhage. The operation was by a very skilful specialist, who, upon application of the patient the day after the operation, plugged the posterior nares with difficulty. But the hemorrhage persisted for three days, when the patient, whose father's family I had attended for many years, applied to me in company with his father. I, of course, declined to have anything to do with the case, and urged him to return at once to the specialist, who could do everything that was necessary. This he positively refused to do, and said if I would not attend him he would get some one else. He had visited the doctor three times, but the bleeding continued. As it was ten o'clock at night when he came to my office, I told him I would stop the bleeding and would see his doctor next morning and get him to call at the patient's house. This I did. I stopped the bleeding at once, but kept the patient and his father in my office till twelve o'clock at night to see if the hemorrhage really was arrested. This was the last of the bleeding. This man was of a hemorrhagic diathesis, and, some three weeks after this, he had hemorrhage from the lungs, which has continued occasionally up to this date. At the Red Sulphur Springs of Virginia he gained twenty pounds, but the bleeding from the lungs continued. He is of a phthisical family. I have been thus particular so that I might satisfy the reader that this was a bad case of epistaxis.

My plan is not only effectual, but is easy of application and absolutely painless, and can be probed in the smallest patients. The little device which I use is made of fifteen of the long threads of patent lint, size three and one-half or four inches long, which I double on themselves and tie in the middle, and let one end of the string be six or eight inches long so as to pull the plug out when necessary. When doubled on itself it looks like a "comet" in miniature with a nucleus and thirty tails (or twice the number of threads used). A probe, or soft piece of pine but little bigger than a match, is pressed up against the centre, and it is passed back upon the floor of the nasal cavity and pushed on till you reach the posterior nares. This will be known both by the resistance and the length of the probe, or the depth which you have reached. Then slowly withdraw the probe and plug the anterior nares and you have arrested the bleeding. These twenty or thirty ends floating in the blood at once coagulate it. The passage of the soft lint gives no pain whatever. In persuading children to submit to the operation, I often pass the lint up my own nose to satisfy them it gives no pain. If lint is not at hand I use the largest size spool cotton.

Some years ago I called the attention of one of our local societies to this matter, and it was mentioned in a local journal, but attracted no attention. Seeing the notice of Dr. Fridenberg's method in the Medical Record, I send this to you hoping it will have a wider circulation. Any sensible layman can perform this operation. Many years ago I was wont sometimes to remain at the patient's house for hours, fearing a return of the bleeding, but do so no longer. The plug is removed in from twenty-four to forty-eight hours. It gives no pain and the patient is willing for it to remain. The other methods are all painful in execution, and the discomfort, while the plug remains, is very considerable.

Progress of Medical Science.

Chemical Alterations of the Gastric Juice in Acute and Chronic Maladies.—The condition of the gastric juice during febrile states has been studied of late by Wolfram. In the acute pyrexias, which included a case of exanthematic typhus, two of intermittent fever, four of typhoid fever, six of pneumonia, the gastric juice, though containing pepsin, showed not the least trace of hydrochloric acid. In several chronic cases, including one of double fibrinous pleurisy lasting two months, and one of phthisis pulmonalis, the gastric juice was normal. Uffelman and others, on the contrary, claim to have seen cases where the fever was not accompanied with absence of hydrochloric acid in the gastric secretion (*The Boston Medical and Surgical Journal*). The alterations in the gastric juice in phthisis have been studied, particularly in Germany, by Hildebrand, Rosenthal, Klemperer, Immermann, and others. According to Hildebrand, the normal acid is wanting when there is continued fever, while it is always present when there is no elevation of temperature. Brieger's observations agree in the main with these results—the acid was wanting in nineteen out of thirty-one cases. At the end of the disease there was present gastritis, with atrophy of the glands. Rosenthal found that, whether in the earlier or later stages, the gastric juice of phthisical patients was generally devoid of free hydrochloric acid. Klemperer distinguishes the initial from the terminal dyspepsia. There is, beside, a pretubercular dyspepsia, in which the secretory activity is normal. In the initial dyspepsia, Klemperer affirms that there is generally hydrochloric hyperacidity. In the final stages he has found the hydrochloric acid deficient or wanting, and the processes of fermentation very much developed. He believes these latter phenomena to be the expression of a subacute or

chronic gastritis. In fifteen cases Einhorn found the natural acid wanting in two cases, intermittent in one, and constant in twelve. According to Shetty there is always hydrochloric acid in the gastric juice in phthisis; sometimes this acid is in excess.

To sum up: It will be seen that there is nothing constant relative to the proportion of hydrochloric acid in the gastric juice of phthisical patients; in febrile cases the acid is generally found wanting; in the afebrile it may exist in the normal quantity or even be in excess. Chelmonsky has in several cases noted absence of hydrochloric acid and diminution of pepsin in emphysema; he has frequently found this acid absent in the course of chronic phthisis. In anæmia and chlorosis, Riegel observed the proportion of hydrochloric acid to be higher than the normal in three carefully studied cases, and Ritter and Hirsch have claimed similar results from their rather incomplete analyses. Hayem, in cases of chlorosis, has found the digestive operations to be sometimes normal, and sometimes profoundly altered; in the latter cases there was deficiency of hydrochloric acid with dilatation of the stomach. In no case did Hayem find hydrochloric excess. Georges has noted hydrochloric deficiency in the anæmic patients whose gastric secretions he has examined, while the organic acids existed in large proportion. In a case of grave anæmia consecutive to hemorrhages, Lyon found absence of hydrochloric acid. In diseases of the heart, according to Hüfler, whether the affection be valvular or muscular, the consecutive circulatory stasis, even when it is little pronounced, suffices to enfeeble or even to destroy the power of the stomach to fabricate acids. Of ten patients, nine had hydrochloric deficiency. Sandberg and Professor Sée have also noticed absence of hydrochloric acid in cardiac affections. According to Einhorn and Ewald the hydrochloric acid only disappears in cardiac patients when there is a catarrhal gastritis. Want of hydrochloric acid in the gastric juice has been found in diabetes, gout, uræmia, progressive pernicious anæmia, and in Addison's disease. According to Bourget and Georges, there is always enough pepsin, or at least of pepsinogenous substance, in the stomach. These writers do not believe in the remedial properties of this ferment when therapeutically administered, and here they indicate a divergence from a considerable clinical experience, which attests to the efficacy of artificial pepsin in many digestive disorders.

The Value of the Injection Test in Doubtful Cases of Ruptured Bladder.—Dr. Walsham writes as follows to *The Lancet*: The value of this test was well illustrated by a case recently under my care at the Metropolitan Hospital. The patient, an elderly woman, had been knocked down and run over by a van, one of the wheels passing over the lower part of her abdomen. On admission she was found to have a fracture of the pelvis, involving the sacro-iliac joint, with considerable separation of the pubic symphysis. She was quite unconscious and in an extremely collapsed condition. The skin was cold and clammy, the pulse small and weak, and the respiration feeble and sighing. When I saw her, shortly after her admission, she was still deeply collapsed, but had slightly recovered consciousness and complained of great pain in the lower part of her abdomen. It was doubtful how much urine she had in her bladder at the time of the accident, since, having only partially regained consciousness, she could not answer this question satisfactorily. I passed a silver male catheter, but only a small quantity of blood-stained fluid escaped, and on depressing the handle the points seemed to be felt more easily than normal by the hand above the pubes. The history of the accident, the collapsed condition of the patient, the fracture of the pelvis, the separation of the pubic symphysis, the pain in the hypogastrium, the escape of only a small quantity of bloody fluid on the passage of the catheter, and the apparent abnormal projection of the point of the catheter above the pubes when the handle was depressed, led me to suspect a rupture of the bladder. Seeing the importance of early recognizing this injury if treatment by suture of the ruptured viscus is to have a fair chance of success, I determined to explore the bladder by an incision above the pubes. Before doing so, however, I thought it as well to try the injection test. I therefore forcibly injected a measured quantity of water into the bladder through a full-sized catheter tightly fitting the urethra, and then after a few minutes drew it off, taking care to prevent any loss. The same amount, within a drachm or so, as that injected was returned. In the face of this test, therefore, I resolved to wait a few hours before undertaking any active measures. Suffice it to say that, in the course of the evening, the patient passed urine naturally. After this she had no further bladder trouble, and made an uninterrupted recovery.

Observations on the Movements of Young Children.—M. Alfred Binet has recently published some interesting observations which he has made with regard to the movements of infants. The first question to which he directed his attention was the way in which they learn to walk. He maintains that the attempts to walk are instinctive, and not the result of education (*The Lancet*). Among other grounds he draws attention to the more or less coordinated treading movements that even an infant of only three weeks will keep up if the soles of its feet are allowed to touch lightly a suitable surface. He believes that the time at which a child learns to walk depends not merely on bodily conditions, such as firmness of the bones, good muscular power, etc., but also on the mental characteristics of each child. Thus he thinks he has established the fact that a child who can give its attention to placing its steps, and whose attention is not easily distracted, learns to walk at an earlier age and in a shorter time than more restless children. He maintains further, that the boy makes the man, and that such children are characterized in later life by the important faculty of close application to work.

M. Binet also directed his observation to the restless movements of young infants, which have been so carefully studied in England by Dr. Francis Warner. He draws special attention to the fact that these movements are almost always bilateral, the two sides being affected either synchronously or alternately. This tendency to bilateral movement is to be noticed not merely in infants, but may also be traced in children of seven years old. If a rubber ball connected with a tambour of a revolving blackened cylinder be placed in each hand of an intelligent child, and he be told at a given moment to squeeze with one hand only, the tracing almost invariably shows that the ball had been also squeezed, although to a much less extent, by the other hand. A similar apparatus was employed to estimate the "reaction time" which elapses between the giving of a signal and the performance of a prearranged movement. A tuning-fork was arranged to mark fractions of a second on the revolving cylinder, and the signal was given by a bell, which marked the cylinder as it was struck. The child then squeezed the ball as quickly as possible. The average "reaction time" with four children, whose ages ranged from three to seven years, was just double that obtained with the same apparatus in the case of healthy adults. The duration of the contraction was also more prolonged, the average in the children being three times as long as that in adults. M. Binet describes with less exactness the very complicated automatic movements which may be excited in an infant by gentle cutaneous stimulation during sleep, and which may not even be noticed by the child when awake if its attention be distracted. M. Binet's observations are opposed to the views of Mill and Bain that our ideas of space, etc., are the result of education, and not intuitive. He says that a child three weeks old, who he is certain had never had a fall, and therefore could not know by experience that it would be attended by pain, will lie contentedly across a person's outstretched arms, if the

hands be placed in such a position as to prevent its slipping down. If, however, the hands and arms be depressed, so that the infant tends to slide down, it will show its fear by at once screaming and struggling. He believes, in addition, that this argues the presence of the muscular sense at this age, in spite of the opposite opinion held by some writers. The same view, grounded on similar observations, was taken by Sir Charles Bell, in his studies of the subject.

The Absorption of Fat.—Minkowski has found that after extirpation of the pancreas animals entirely lost the power of absorbing fat, except in the form of milk, though if pig's pancreas were mixed with the food the fat was digested and retained. He therefore concludes that the secretion of the pancreas is, if not the sole, at any rate an essential factor in the absorption of fat, reducing it to an emulsion, or a state of physical and mechanical division and suspension similar to that in which it exists in milk.

Some Cases of Prolonged Want of Food—Asitia.—Asitia is taken from the Greek word ἀσιτία, which expresses want of food, either voluntary or involuntary. A correspondent of *The Lancet* writes as follows on this subject: "The name of General Colletta, author of the 'History of the Kingdom of Naples from 1734 to 1825,' is one of the most respected in the annals of modern Italy, and his reputation for discernment and veracity may fairly be placed on a level with that of the Duke of Wellington in our own country. His description of the terrible earthquake which in 1783 devastated Calabria, and was severely felt throughout the Kingdom of the Two Sicilies is of unquestioned authority, and from it the following incidents are extracted. They refer only to persons and animals imprisoned beneath the ruins caused by the earthquake. It is only necessary to add that the facts were ascertained by General Colletta's personal investigations at the scene of the catastrophe. 1. A female child, eleven years of age, was extricated on the sixth day and lived, and another girl, sixteen years of age, Eloisa Basili, remained underground for eleven days, holding in her arms an infant which had died on the fourth day, so that it was decomposed and putrefied at the time of her rescue. She was unable to free herself from the shocking burden in her arms, so closely were they hemmed in by the fallen wreckage. 2. More wonderful still as regards duration of life were certain cases that occurred among animals. Two she-mules existed under a heap of ruins, the one twenty-two days, the other twenty-three; a fowl lived for twenty-two days, and a pair of hogs, which where completely entombed, remained alive thirty-two days. The human beings who had undergone these unwonted privations, when interrogated as to their sensations, replied, 'I can recollect only up to a certain point, and then I fell asleep.' When it is remembered that all the creatures thus circumstanced were deprived entirely of water or other liquids, it is hardly to be wondered at that though there was no desire for solid food they displayed on their liberation an insatiable thirst, and, the author adds, partial blindness—*sete inestinguibile e quasi cecità*. There is also mentioned the case of an infant at the breast which was disinterred in a dying condition at the end of three days, and then recovered. A pregnant woman lay unassisted for thirty hours beneath a fallen cliff, and some days after her rescue was delivered of a healthy living child."

Septic Peritonitis.—Dr. Bumm, of Würzburg, distinguishes three forms of inflammation of the peritoneum: aseptic, septic, and specific peritonitis (*The British Medical Journal*). The first form is developed through the agency of mechanical or chemical irritation. It generally ends in fibrinous exudation, and adhesions between different abdominal structures are thus established. The septic form of peritonitis includes two distinct varieties, one due to the streptococcus, the other simply putrid. Streptococcus peritonitis is almost invariably the result of puerperal infection. The germs reach the peritoneum, from their origin in the genital canal, either through the Fallopian tubes, or through the uterine walls and surrounding lymphatics. The fluid in the peritoneum, when death occurs very soon after infection is clear and free from odor, but loaded with streptococci and intensely virulent. A mimin, or less, injected into the peritoneum of a rabbit, will rapidly set up deadly peritonitis. The physical symptoms are little marked; the intestines are greatly distended, but their serous coat remains white and smooth, and patches of lymph are few, and pale in color. When death occurs, after the disease has lasted for two or three days, the fluid in the peritoneum becomes puriform and far less deadly to other organisms. The familiar morbid appearances are plainly marked. Streptococci cultivated apart from the fluid developed in peritonitis are also not very deadly. No doubt, men who do not believe in germs will, on that account, contend that it is something which comes with the germs that causes such disastrous results. The germs do the least harm when introduced without any fluid, or when they have dwelt for some hours or days in peritoneal fluid. According to strict scientific evidence, however. it appears that the greatest harm arises from the combination of streptococci with exudation thrown out in the earliest stage of peritonitis. The streptococcus disease, as we may term it, may attack patients, on whom abdominal operations have been performed, through infection, which is probably always derived from a puerperal case. As a rule, however, the disease which follows abdominal sections or perforation of the alimentary canal is "putrid peritonitis." In this variety the exuded fluid is from the first fetid and turbid. It contains, not one specific germ, but a mixture of germs. It does not set up peritonitis if injected into the peritoneal cavity of rabbits in small quantities. In cases of putrid peritonitis the mixed germs lie in a favorable medium and multiply with rapidity. They then are able to set up a widespread decomposition of the fluid in the peritoneum. Hence this disease progresses slowly, going from bad to worse, while the streptococcus variety begins with symptoms of extreme virulence. Of specific forms of peritonitis the tuberculous is the most distinct. According to Dr. Bumm the existence of a gonorrhœal peritonitis is doubtful. Gonorrhœal pus poured out of a ruptured tube into the peritoneum seems to act as an aseptic fluid, provided it be pure, and becomes encysted. When mixed with pyogenic germs the case is different, and septic peritonitis may follow.

The Shuttle-Pulse and Its Portent.—There is a peculiar pulse, says a writer in the St. Louis *Medical and Surgical Journal*, which I have sometimes felt, but never without a shudder, when in the radials of those whom I have loved—never without grave prognostic impression whenever perceived in any patient. I mean the shuttle-pulse, as I would call it; a pulse in which the pulse-wave passes under your finger as if it were floating something solid as well as liquid—that something passes along the blood-current under your finger like the weaver's shuttle through the loom. I have felt it in cases only where the blood was hydræmic and a local rheumatic inflammation existed, or had recently existed, within the heart. I have called it the shuttle-pulse, because I can liken it to nothing else, and because the impression it makes suggests that name. If you have ever felt this pulse, did you ever know of a patient recovering after its appearance? Did you ever know a patient, after its appearance, to escape the consequences of embolic closure of vessels? To me it is the pulse of fibrinous coagula going the rounds of the circulation. Its portent has ever been evil. It is a pulse of dark prognosis and painful memories—the pulse of impending death in part or whole. I think I have never known a patient to live after such a pulse had been detected. It is the pulse of fatal rheumatic endocarditis or endoarteritis and its sequent or associate anæmia and emboli.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, October 4, 1890.

THE EDUCATION OF THE SENSES IN MEDICINE.

IT would be a wise measure if medical students had, as a part of their curriculum, systemic courses in the training of the special senses. Some people are born quick and observant, with keen eyes and ready hands; but these are in the minority. Yet everyone can easily train his senses to better work, and it is of vast importance to physicians that this should be done. The eye, the sense of touch, and the muscular or co-ordinating sense especially need training. The student, after glancing over a patient, should be able at once to enumerate every point in physiognomy and physical structure. Trained newspaper reporters will enter a room, and after a minute's inspection can write down all the details of its arrangements. The physician's eye should make a similar report of the body of his patient.

The color of the face, skin, the eyes, the lips, the expression, the posture, the movements, the voice, the breathing, the condition of nutrition, should be taken in at a glance. Practice compels all physicians, if successful, continually to learn to do this, but training for it cannot be begun too early. The sense of touch and pressure needs especially to be cultivated. For this purpose the physician should pay attention to the care of his hands. They should be kept clean, soft, pliable, and should be much protected by gloves. The rough and dirty finger can never be a delicate organ of touch. The *tactus eruditus* can only come after long experience, but less experience will be needed if proper systematic direction is given to the effort. The pulse is an excellent thing upon which to practise. Some surgeons cultivate the use of certain fingers for certain purposes.

Thus Dr. Hachenberg (*Cincinnati Medical News*) recommends:

1: The touch with the tip and inner surface of the end of the right index-finger for the examination of hidden parts, as the os tincæ, rectum, throat, bottom of wounds, etc.

2. The inner surface of the ends of the index- and middle-fingers of the left hand for the examination of external parts of the body—for fluctuations of various kinds, œdema pulsations, to determine the character of early cutaneous eruptions, as in small-pox, etc.

The need of a highly cultivated sense of touch and pressure is very great in external examination of the abdominal walls, and in surgical, obstetrical, and gynecological practice. Dr. Tait says, in his work on "Methods of Diagnosis:"

"It is perfectly impossible for me to convey, by any kind of description, how I can tell by the touch an inflamed vaginal mucous surface from one that is healthy; neither can I describe the feeling that the everted surface of the cervix gives to me which declares the condition of chronic endometritis. But I know that my educated finger-tips can make this distinction. If, on the other hand, I discover a pelvic tumor, long practice enables me to tell with almost perfect certainty, and without the use of the sound, that it is a retroverted fundus or adherent tube or ovary, or by its fading away toward the broad ligament, on one aspect of the uterus or another, that it is an intraperitoneal hæmatocele; while the peculiar resistance of a myoma conveys to my mind an accurate impression which needs no probing the uterus to substantiate. So a cyst reveals itself in a way I cannot communicate. . . .

"Pregnancy, the rock ahead to inexperienced practitioners, can be infallibly revealed by palpation. First of all, there is fluctuation, due to the liquor amnii, and it can be easily detected, and this declares the cystic nature of the mass. If the hand be made to lie gently on the parietes for a few minutes, a rhythmical contraction of the uterus, by which at one time it is hard as a cricket-ball, and at another soft as a cushion, will become perfectly apparent, and this is an infinitely more certain sign than the fœtal head, or the sound of the placental bruit."

The education of the ear is also imperatively required by the physician. Everyone remembers how hard it was at first to hear a cardiac murmur, and distinguish the different râles. The intonations of the voice, and even the fall of the foot, are things full of meaning to the physician.

The olfactory sense is perhaps least of all used in diagnosis, though it is the quickest of all the senses to detect unsanitary conditions, whether external to the body or internal. The nose insists on pure air and cleanliness, and thereby this modest organ has no doubt saved countless lives. The olfactory organs are the most delicate of all the special senses, and perhaps olfaction may in time be more systematically used in the doctor's search after the pathological.

GERMAN SCIENCE AND AMERICAN ART.

THE following comments on German universities and German medicine, from the pen of Professor William Osler, are calculated to inspire a sense of due humility in the American breast. Writing to friends at home, Dr. Osler says (*New York Medical Journal*): "Now, as you are in part a Teuton, it may interest you to know the general impression one gets of the professional work over here. I should say that the characteristic which stands out in bold relief in German scientific life is the paramount importance of knowledge for its own sake. To know certain things thoroughly, and to contribute to an increase in our knowledge of them, seems to satisfy the ambition of many of the best minds. The presence in every medical centre of a class of men devoted to scientific work gives a totally different aspect to professional aspirations. While with us—and in England the young

man may start with an ardent desire to devote his life to science, he is soon dragged into the mill of practice, and at forty years of age the 'guinea stamp' is on all his work. His aspirations and his early years of sacrifice have done him good, but we are the losers and we miss sadly the leaven which such a class would bring into our professional life. We need men like Joseph Leidy and the late John C. Dalton, who, with us yet not of us, can look at problems apart from practice and pecuniary considerations. I have said much in my letters of splendid laboratories and costly institutes, but to stand agape before the magnificent structures which adorn so many university towns of Germany, and to wonder how many millions of marks they cost, and how they ever could be paid for, is the sort of admiration which *Caliban* yielded to *Prospero*. Men will pay dearly for what they prize dearly, and the true homage must be given to the spirit which makes this vast expenditure a necessity. To that *Geist* the entire world to-day stands debtor, as over every department of practical knowledge has it silently brooded, often unrecognized, sometimes when recognized not thanked. The universities of Germany are her chief glory, and the greatest boon she can give to us in the New World is to return our young men infected with the spirit of earnestness and with the love of thoroughness which characterize the work done in them."

We trust that the feelings here expressed may be widely shared, and prove a stimulus to American workers.

It must not be thought, however, that the commercial *Geist* which afflicts our profession is entirely indefensible, or that it is not also very fruitful of good. Americans have been forced by the nature of their environments and the character of their institutions to apply themselves almost entirely to the art of medicine. Every possible method by which disease can be cured or suffering alleviated is ingeniously devised, eagerly appropriated, and its real value quickly determined. We can say, without boasting, that the representative American physician is the best kind of physician—acute, resourceful, kind, sound in judgment, quick in action, patient, never sparing himself.

We have not, it is true, a class of men totally devoted to scientific work and contented with its rewards. But they will come, and some are already here. Of this the eloquent writer of the paragraph we have quoted is an evidence and an example.

THE SALICYLATES IN THE TREATMENT OF PLEURISY.

An esteemed daily contemporary announces to the world that certain Paris physicians have discovered salicylic acid to be a wonderful cure for pleurisy with effusion, and it is kindly advised that American physicians try the drug if "the present epidemic" should continue.

We are pleased to observe the pedagogic interest taken by the daily press in medical matters, but it is highly desirable at the same time that the editorial department be infused with a little more learning before it begins to teach.

The use of salicylate of soda in the treatment of pleurisy was fully described in the columns of the Medical Record over two years ago (August 25, 1888), by Dr. Joseph Drzewiecki. The method of giving the drug and the results are published in detail. Yet the New York *Herald* announces this as a new treatment just promulgated in Paris, and editorially commends it to the attention of American physicians!

The *Herald* sadly needs a competent medical editor, if it is to continue its present department of medical news.

THE METRIC SYSTEM AGAIN.

After some years of quiescence, the metric propaganda is again being taken up, and in a way that promises some results. At a meeting of the American Association for the Advancement of Science, held at Toronto, September, 1889, a committee was appointed to promote the use of the metric system of weights and measures among professional men, and especially among physicians and pharmacists. The committee has issued a very forcible appeal in behalf of the modern system. As a result, in part perhaps, of their labors, the members of the convention for the seventh decennial revision of the United States Pharmacopœa which met in Washington, on May 6, 1890, voted to adopt the metric system exclusively in the next edition of this work.

Pharmacists will therefore be obliged hereafter to make themselves familiar with the grammes, milligrammes, and cubic centimetres.

The arguments in favor of the metric system have often been put forward in these columns, and they are arguments which gather strength each year. It is the system already in use throughout the Continent among physicians, and by all scientists and chemists throughout the world, without regard to their mother-tongue. It is the only system in this country which has been legalized by Congress, and it is in use in the Post-office, Coast Survey, U. S. Navy, and U. S. Marine Hospital Service.

The Committee say: "The argument that our system of weights and measures is the same as that in use in Great Britain, with whom we have most intercourse, is without foundation. The system we use is well called the *American system*, for no other nation uses it. The *Troy* pound has been abolished in Great Britain, and no longer appears in their text-books, and the fluid measures are different in the proportion of 4 to 5.

"The actual and intrinsic advantages of the metric system in the arts of medicine and pharmacy are very considerable. The terms used in the old system number at least four, viz., the *grain*, *scruple*, *dram*, and *ounce*. To these are really to be added the *minim* and *fluid ounce*. The fluid ounce and the dry ounce are not the same, and the factor of each denomination is different, making four factors to remember and compare each time a prescription is written. If the metric system is used, there is *but one factor*, viz., *the gram*, which is divided according to our ordinary or decimal system of numeration.

"The gram is the essential thought-unit. As the cubic centimetre of water weighs one gram, the units of weight and measure are identical, and only the specific gravity of fluids lighter or heavier than water (of which there are not many used in medicine) need be considered.

"As each sign and factor are separate ideas, there are at least ten distinct thought-elements in the old system against one in the new, and as the chance of error is as the number of terms, the possibility of making a mistake

is ten times greater in the old system than in the metric, given equal practical knowledge of each system in the practitioner.

"Again, the hieroglyphical signs for scruple, dram, and ounce are abolished by the metric system, and the possibility of confusion between the last two vanishes. Also the V and X of the *Roman* numerals give place to the *Arabic* numerals 5 and 10 in common use. The former characters are not infrequently written in such a way as to be easily mistaken for each other, and this source of error, too, is removed by abolishing the use of the Roman characters."

We regret to find the learned advocates of the metric system spelling "gramme" without the final *me*. This may do for scientists and chemists, but the physician should carefully avoid such orthography, for otherwise serious confusion would occur between "gram" and "grain." The average physician is not a model penman, and is not likely to be, and in one case out of every ten in which gram or grain was written, it would be hard to tell surely which word he meant.

In conclusion, the Committee furnishes us with the practical point that an ordinary teaspoon, when full, contains five cubic centimetres, a dessertspoon fifteen, and a tablespoon twenty cubic centimetres.

THE PREVENTION OF SYPHILIS.

In the Section on Hygiene at the recent International Congress, an interesting and important debate took place regarding the matter of licensing houses of prostitution. Dr. Thiry, of Brussels, earnestly advocated the licensing system with sanitary inspections twice a week. Dr. Kaposi, of Vienna, took similar grounds. Dr. Thiry would not allow any prostitute to be licensed under the age of twenty, but Kaposi thought that sixteen was a sufficiently advanced age.

The views advanced by the above gentlemen were opposed by several others, among them Dr. Drysdale, of London, who asserted that, according to his investigations, there was as much syphilis in Paris, where prostitution is regulated, as in London, where it is not.

A vote of the Section was finally taken, and it was shown that a great majority of the members were opposed to regulation.

This is the view which in the present state of society is most in accord with justice, common-sense, and experience. Licensing and sanitary inspection tend to produce secret prostitution; and besides, such methods enforce penalties upon women but not upon men, and are therefore most unjust.

THE RELATION OF BENIGN TO MALIGNANT GROWTHS IN THE LARYNX.

In view of the intense partisanship which has crept into the subject of laryngeal cancer the recent exhaustive monograph by Dr. Felix Semon, upon the question whether benign laryngeal growths ever become malignant, especially after operative interference, will be read with extreme interest.

Dr. Semon's collected material embraces 10,747 cases of benign new-growths, observed by 107 laryngologists during the period 1862–88. Of these, 2,531 were cases not operated upon, of which 12 are reported to have undergone malignant degeneration spontaneously; and 8,216 cases in which intralaryngeal operations had been performed, of which 33 cases are reported to have undergone malignant degeneration subsequently to the operation. Of the first series there is 1 case in every 211 cases; in the second series, 1 case in every 249 cases. Hence it follows that, if anything, more benign cases become malignant if left alone than if interfered with surgically. As a matter of fact, however, the conclusion to be arrived at is that benign growths do not become malignant.

This must be pleasant reading to Dr. Morell Mackenzie, who has been bitterly censured, as is well known, for not allowing a radical operation upon the late Emperor Frederick.

The conclusions reached by Dr. Semon as to intralaryngeal growths may very fairly be applied to neoplasms elsewhere.

News of the Week.

The Death of Dr. J. Mathews Duncan took place at Baden Baden on September 1st. Dr. Duncan was born in Scotland in 1826, and has for many years held a leading place among English obstetricians and gynecologists. He made many original contributions to these subjects, the ripest fruit of his work being found in his clinical lectures. The *Lancet* has this to say about him: His style was characteristic; strong and rugged, aiming at clearness rather than elegance, at accuracy rather than effect. This was like the appearance of the man himself. His presence and talk were like the bleak honesty of his native moors. As a physician, patients were sometimes disconcerted by these very qualities, which they did not expect to find in a "ladies' doctor;" but none in trouble failed to find a kind and sympathetic heart beneath his somewhat silent and sententious manner, and he was ever ready to help both with advice and money in time of need. With frivolity and charlatanry he had no patience, and such as possessed these faults found they had met in him with the wrong man. In his relations with patients and his fellow-practitioners self-interest never came in. The interests of the patient were paramount. In appearance Dr. Duncan was of middle height, powerfully built, with an upright, firm carriage. His head was massive; his face was generally impassive, but capable of great expression. His eyes were clear and reflected his moods. His voice, tinged with the accent of his birthplace, was grave and manly. His manner in lecturing was slow, direct, and impressive, and his hearers felt that he was filled with the importance of the subject. He lived in his family, had no clubs, many friends, few great friends, but to such what a great friend he was!

Local Boards of Health of the State of New York.—The New York State Board of Health has just published a complete list of the Local Boards of Health of this State. The book is an evidence of the increasingly thorough sanitary organization which the State Board has brought about.

The Association of American Rhinologists meets at Louisville, October 6, 7, and 8, 1890.

Burials without Death Certificates.—It was lately stated in the British Parliament that fifteen thousand persons are buried annually without any medical certificate of death. The government has promised to inquire into the matter.

The New York Polyclinic has adopted a resolution that only graduates of regular medical colleges, or others legally entitled to practise medicine, shall be admitted as matriculants of the school.

Dr. James A. Lydston, late Chief of the Eye and Ear Department of the Pension Bureau, Washington, D. C., has been called to the chair of chemistry in the College of Physicians and Surgeons, Chicago.

Quarantine at Mobile.—A large number of the citizens of Mobile have petitioned the county authorities to establish at once an adequate quarantine plant for the protection of the city. The estimated cost of such plant is $25,000, and the County Board has replied unfavorably to the request.

American Rhinological Association.—The following papers are announced for the meeting of this Association, to be held in Louisville, on October 6th, 7th, and 8th: "Nasal Reflexes," opened for discussion by Dr. A. B. Thrasher, of Cincinnati, O.; "Tonsillar Hypertrophy, its Influence on Nasal and Aural Inflammation, with Treatment," opened for discussion by Dr. T. H. Stucky, of Louisville, Ky.; "Nasal Cauteries," opened for discussion by Dr. E. R. Lewis, of Indianapolis, Ind.; "Hygiene of the Upper Respiratory Organs," opened for discussion by Dr. L. B. Gillette, of Omaha, Neb.; "Nasal and Pharyngeal Manifestations of Syphilis, Results and Treatment," opened for discussion by Dr. J. G. Carpenter, of Stanford, Ky.; Report of the Insane Asylum Committee appointed at last meeting to make rhinal examinations and report "On the Relation of Rhinal Inflammation to Mind Affection;" "Nasal Hypertrophies," opened for discussion by Dr. John North, of Toledo, O.; "Polypi and other Nasal Growths," opened for discussion by Dr. C. T. McGahan, of Chattanooga, Tenn.; "Administration of Morphine by the Nostrils," by C. H. Von Klein, of Dayton, O.; "Oils in the Treatment of Diseases of the Nasal Passages," by Dr. Edwin C. Painter, of Pittsburg, Pa.; "Removal of Luscka's Tonsil," by Dr. J. Homer Coulter, of Peoria, Ill.; "The Relation of Naso-pharyngeal Disease to Catarrh of the Middle Ear," by Dr. Emmett Walsh, of Grand Rapids, Mich.; "Hay Asthma," opened for discussion by Dr. A. DeVilbiss, of Toledo, O.; "What shall be our Excipients in Nasal Sprays?" opened for discussion by Dr. R. S. Knode, of Omaha, Neb.; "Remarks upon the Subjects read before the American Rhinological Association," by Dr. Thos. F. Rumbold, San Francisco, Cal.

The Medical Society of the Missouri Valley. — At the third annual meeting of this Society, held in Council Bluffs, Ia., on September 17th, and 18th, the following officers were elected for the coming year: *President*, Dr. J. M. Richmond, of St. Joseph, Mo.; *Vice-Presidents*, Dr. B. F. Crummer, of Omaha, Neb., and Dr. G. W. Coit, of Ia.; *Secretary*, Dr. F. S. Thomas, of Council Bluffs, Ia.; *Treasurer*, Dr. T. B. Lacy, of Council Bluffs, Ia. The next meeting will be held in Kansas City, Mo.

Paterson (N. J.) General Hospital.—The corner-stone of the Paterson General Hospital will be laid on Saturday, October 11th, at four o'clock P.M., with appropriate ceremonies. The buildings, which will be of brick and stone, will consist of the administration building, forty by seventy feet, four stories high, with kitchen, laundry, and boiler-house, detached, in the rear. From one end of the administration building a short corridor will lead to the centre of the "ward" building, which is twenty-seven feet wide by two hundred and seventy-five feet long, and three stories high. An elevator in the administration building will serve for every floor. The heating and ventilation is planned after that in use at the Roosevelt Hospital. It employs numerous foul-air ducts, all of which lead to the base of a heated ventilating shaft near the boiler-house. This shaft is twelve feet square and ninety feet high. The iron smoke-stack from the boiler-house, which is two feet in diameter, is placed in the centre of the ventilating shaft and mounts above its top. The capacity of the ward building is eighty-four beds. In addition to this are the many necessary rooms, private rooms, nurses' rooms, etc. The building-site consists of one complete square of ground, entirely surrounded by streets, and is situated in one of the highest parts of the city. The Building Committee consists of fourteen ladies and gentlemen, of which the following physicians form a part: Drs. C. S. Van Riper, E. J. Marsh, W. B. Johnson, Wm. K. Newton, John L. Leal, and Philander A. Harris. John H. Post, of Paterson, is the architect. It is not expected that the work will be completed before the Fall of 1891.

Woman's Medical College and Infirmary. — Dr. George Thomas Jackson has been appointed Professor of Dermatology at the Woman's Medical College of the New York Infirmary.

A Law to Prevent the Introduction of Contagious Diseases from one State to another was enacted by the recent Congress.

The Effort to Boom the Medical College in connection with Johns Hopkins University by making it co-educational goes merrily on. Despatches state that more than sixty thousand dollars have been raised, mainly in Baltimore, Boston, New York, and Philadelphia, and a committee will soon be organized in Chicago. The trustees have not yet said whether or not they will admit women to the hospital school, but the ladies expect their hundred-thousand-dollar offer to overcome all objections.

A Famine Duel.—Jacques, the professional hunger virtuoso of Paris, has sent a challenge to Succi, the famine debauché of Italy, to the following effect: "I, Alexandre Jacques, having been informed that Signor Succi intends attempting a forty-five days' fast in New York, do hereby challenge him once more to fast for endurance under equal conditions. I, the child of France, defy the blatant Italian, Succi. Accept my challenge and starve with me, or be known for evermore as a braggart sailing under false colors.—ALEXANDRE JACQUES."

The Journal of the State Medical Society of Arkansas is the title of a new monthly periodical published at Little Rock.

Death from Cocaine.—A young woman has died at Lille from the effects of cocaine injected into her gums by a dentist.

Society Reports.

AMERICAN ORTHOPEDIC ASSOCIATION.

Fourth Annual Meeting, held at Philadelphia, Pa., September 16, 17, and 18, 1890.

The President's Address.—Dr. Willard, after welcoming the members, narrated his experience in the pursuit of orthopedic knowledge in Europe during the past summer. He congratulated American orthopedic surgeons upon their decided and marked superiority as regards the application of general and surgical knowledge, and the benefit to be derived from operative measures in the correction and relief of deformities. The safety, rapidity, and ease with which many bodily defects can be rectified by the knife or chisel, and the great advances made in the practice of antiseptic surgery, are, as a means of relief, more fully appreciated and grasped by American surgeons than by any others. He would, however, give all credit to Macewen for his earnest advocacy of osteotomy, which has been such a marked incentive to workers in all parts of the world; while to Lister belongs properly the honor of securing that advance in surgery which in its varying applications has revolutionized surgical practice.

In regard to mechanical advances, the invention and application of mechanical measures for the correction of deformities, for securing rest, for immobilization, for traction, and for the proper treatment of joint-diseases, Americans can justly claim that they are in the first rank. He then alluded to the Orthopedic Section of the recent International Congress, which was established through American efforts, and which thus, for the first time, gave an official position to orthopedic surgery as a part of the Congress.

The most novel idea associated with this particular branch of work which was shown at the exhibition at Berlin was the ivory joint of Dr. Gluck, of Berlin, by which he proposes to replace excised portions of bone. These joints are intended to remain permanently *in situ*, and maintain the proper functions of the limb. While the subject is as yet only in its experimental stage, both in theory and in practice, he yet deemed it worthy of investigation.

Dr. Beely's apparatus for the correction of deformities of the chest arising from lateral curvature of the spine, by weight-pressure exercised upon the individual in a stooping posture, was highly commended.

Surgical Treatment of Spastic or Cerebral Paralysis in Children.—Dr. Bradford said that orthopedic surgeons had not done full justice to the surgical treatment of this affection, although it is one that occasions distortion and difficulty in locomotion. This is partly because the affection is not a very common one, but chiefly because the disease has been but little understood. Thanks to the neurologist, however, recently light has been thrown upon the nature of the disorder, and it is now readily recognized and its clinical history well understood.

The writer had not been able to gain permanently satisfactory results by the use of mechanical appliances, although in infantile paralysis (sometimes confounded with spastic or cerebral paralysis) appliances are of great assistance, and had not found any assistance from the use of electricity, and but little from massage. Some assistance in light cases had been gained by educating the patients in the use of the muscles, but when the spasm is severe muscular training will prove of little aid.

In affection of the lower extremity from this disorder the writer had had satisfactory results from tenotomy and myotomy of the resistant muscles, *i.e.*, the tendo Achilles, the hamstring muscles, and the prominent adductor muscles, if the latter are involved.

For myotomy the writer preferred an open incision (under antiseptic precautions) rather than subcutaneous division. The limb should be fixed in a corrected (but not over-corrected) position after operation. A light appliance should be worn to aid locomotion for a month or so after operation. Relapses are not to be anticipated after careful myotomy, and in the writer's experience permanent benefit in the patient's locomotion may be expected in children free from mental deficiency. The writer's experience was based on fourteen cases, ranging from four to sixteen years of age. He had had no experience in operating upon adults with this affection.

Tenotomy for Relief of Deformity in Spastic Paralysis.—Dr. Arthur J. Gillette, of St. Paul, reported a case of cerebral hemiplegia in a child, eleven years of age, occurring when the child was twenty-six months old, with resulting talipes equinus, hammer-toes, and flexion at the knee, for which he made a subcutaneous division of the Achilles tendon. The case had been treated without relief by mechanical means during all this time. Simple division of the Achilles tendon permitted the foot to return to the normal position, completely relieving not only the equinus, but the varus and hammer-toes as well, and also the flexion at the knee. Eight months have now elapsed since the operation, and there has been no return of spasm in any of the muscles of the leg. The ankle-joint will permit of almost normal movement, and the patient walks with but a slight limp.

Amputation as an Orthopedic Measure.—Dr. Ap Morgan Vance made a very strong plea for amputation, as often the best and only way to relieve crippling and deformity. Even for convenience sake, especially where the patient is able to command the best artificial appliances, amputation may be wiser than so-called conservative surgery. The orthopedist, from his intimate knowledge of protective apparatus, and its conditions, is a better judge than the ordinary surgeon of the necessity for amputation, as well as where upon the limb it should be made. The difference between a barbarous amputation through the knee-joint, and one three inches above the joint, may be of incalculable benefit to the patient. The orthopedist can frequently relieve, by a proper amputation and the adjustment of a good limb, cases of adult congenital talipes, where painful bursæ have formed; old cases of infantile paralysis (talipes); cases of subluxated knees with anchylosed patellæ, flail-joints, and much shortening, and cases of abominable amputation through the tarsus.

These points, as well as the necessity of the orthopedist bearing constantly in mind, when considering amputations, the limitations and requirements of the artificial limb-maker, were amplified and illustrated by several interesting cases.

A Ready Method of Counter-extension at Knee.—Dr. H. L. Taylor said that the knee is frequently the seat of surgical inflammation, but is favorably situated for diagnosis and treatment. Properly applied counter-extension, *i.e.*, in the lines of the degree of flexion instinctively assumed by the patient, with fixation, usually affords prompt relief to the suffering and provides conditions favorable to the nutrition of the joint and the subsidence of the inflammation. Fixation alone, or simple traction, do not give the same results.

The basis of efficient counter-extension is the adhesive plasters applied to each side of the leg above and below the knee, and ending in webbing at their ends near the ankle and near the pelvis. To give a firm grasp of the leg I use a pair, or two pairs, of strips of narrow rubber plaster, sewed to the side-plasters near where the webbing is fastened, and wound spirally around the leg toward the knee above and below, that is, I use four three tailed or five-tailed plasters. As an improvised splint we may use two long stiff strips of wood, like laths or window-curtain sticks, cut nearly the length of the leg, and having buckles fastened near each end. They are to be bandaged to the sides of the leg in such a manner that the knee will not be straightened when the webbing is reflected over the ends of the sticks and drawn into the buckles. If there

is much flexion, sticks with the proper angle of flexion can be readily prepared; or, the plasters having been applied as described, a plaster-of-Paris case, with firm edges, in which buckles have been embedded at each side near the ends, may be used as the basis for counter-extension. Whatever the dressing employed, it is of the utmost importance that no prying or twisting force be exerted upon the knee. These simple methods have been used with satisfaction as a temporary dressing in several cases.

Treatment of Infantile Club-Foot Preliminary to Operation.—Dr. F. H. Milliken, of Philadelphia, said that tenotomy and osteotomy are not infrequently performed on infants two and three months old. This is premature practice, and in general is attended by disadvantages, because as they do not walk they do not use their muscles and relapse may occur. If a relapse does occur it is not easily remedied. He would delay all cutting operations until the time that the child might be expected to walk. He advised manipulating the foot from ten to twenty times a day, massage, the faradic current, mechanical means, and plaster of Paris running above the knee.

Sacro-iliac Disease.—Dr. Benjamin Lee said: Inflammation of the sacro-iliac synchondrosis is, in my experience, the rarest of the affections to which the spinal system is liable. Writers speak of it as of quite common occurrence. Sayre in his great work on orthopedic surgery mentions having frequently met it in children. I have never seen a case except in the adult. The only anatomical feature to which I would call attention in prefacing my remarks is the fact that only one-half of the articulation is provided with cartilage, and that the inner or anterior half, viewing the joint vertically.

Then followed the histories of two cases from which the following corollaries were deduced:

1. Disease of the sacro-iliac symphysis induces a characteristic deformity of the spine, of which the features are a lateral displacement of the entire trunk in a direction away from the affected side, a single curve, comprising the entire length of the spine, and the almost complete absence of rotation. 2. It also induces a peculiar rolling or waddling gait. 3. It is often the cause of inveterate and excruciating sciatica. 4. It is useless to attempt to remedy the spinal distortion so long as its cause remains unrelieved. 5. The existence of chronic pain in the sciatic nerve, not yielding in a reasonable space of time to medication, should always lead the practitioner to make a careful examination of the spine and of the region of the ilio-sacral juncture. 6. This affection is more frequently met with in adult than in child life. 7. Its appropriate treatment consists in splinting the pelvis, and thus preventing motion between the opposing surfaces of the symphysis, motion not being its normal function. 8. For the same reason extension cannot be expected to produce the favorable results in this affection that we obtain from it in arthrodial joints. 9. The disease is often of extremely slow development. 10. Its first symptom is abdominal pain, whence it may readily be mistaken for peritonitis, ovaritis, cystitis, and the like. 11. The pain is usually referred to the side on which the injury exists. 12. The existence of severe unilateral abdominal pain, accompanied by little or no febrile action, should lead to the suspicion of the existence of this affection. 13. A mechanic may by a happy chance give temporary relief to a patient suffering from this disease, but as he is entirely ignorant of its seat and nature, he is not perhaps the safest person to refer the patient to.

Persistent Abduction of the Foot, commonly Known as Chronic Sprain of the Ankle.—Dr. Royal Whitman, of New York, said: This is a chronic affection, painful and disabling to the patient; characterized by weakness, stiffness, and insecurity, with a limp when the patient is fatigued. The foot is held in an abducted position, the peronii and extensor longus digitorum being more or less spasmodically contracted, so that the power of abduction is limited or lost. The original cause is usually an injury to the internal lateral ligaments, often resulting in subluxation of the astragalus. Thus the muscular equilibrium of the foot is disturbed, the adductors, working at a disadvantage, become weakened, while the abductors, from increased work, are thrown into a state of spasm.

Treatment.—After etherization forcibly over-correct the deformity and place the foot in plaster bandages in a position of extreme equino-varus. Later, an extended course of massage is necessary, with voluntary exercises by the patient and forced movement by the surgeon, always directed to regaining the range of motion formerly restricted. Later a brace is applied, and the patient re-educated in the proper position and movements of the foot. This affection may be avoided by treating recent severe sprain of this class by immediate rest in a plaster bandage with the foot in an adducted position, followed by a course of massage until all movements are free and painless.

In conclusion, the writer urged the necessity of a more thorough knowledge of the injuries and diseases to which the foot is liable, that patients might be spared the long and useless treatment by liniments and anti-rheumatic remedies to which they are usually subjected.

The Muscular Element in the Etiology of Rotary Lateral Curvature.—Dr. Scudder, of Boston, made a preliminary report of the investigations to establish an index of muscular strength in growing girls for each age from the tenth to the nineteenth year. The report is based on an examination of one thousand and forty-one of the school-girls of Boston. It was conducted by means of a chair especially constructed for the purpose; the muscular strength of the back muscles as a group being measured by a self-registering dynamometer. The results of the investigation show the gradual increase in the strength of the back muscles for the age of the growing child. The importance of this investigation, as establishing a firm scientific basis for a further study of the muscular element in the etiology was shown, as well as its bearing upon the treatment, the prognosis, and the recording of lateral curvature cases.

The Etiology of Scoliosis.—Dr. Lovett said that lateral curvature is an affection that attacks for the most part children under ten years of age. Girls are affected four or five times as commonly as boys, and the patients are, as a rule, below the average in muscular development The very large number of theories which have come before the medical profession show how uncertain is the cause of the affection. A small proportion of cases can be assigned to definite causes, such as empyema, infantile paralysis, cerebral paralysis, and rickets, but the majority must be accounted for by other means.

There are three theories which are in vogue to-day: 1, That unequal muscular action is the cause of the deformity; 2, that unequal bony growth is the primary affection; 3, that superincumbent weight falling obliquely upon the spinal column is the chief factor in causing scoliosis.

It is to the third theory that modern medical opinion tends to incline, inasmuch as it rests on sound anatomical evidence. The other factors undoubtedly enter, to a certain extent, into the causation of very many cases.

Mechanism of Rotation.—Dr. A. B. Judson said that rotation of the spine is a necessary accompaniment of curvature of the spine in disease and also in health. It may be seen in a thin person when the trunk takes a strong curve to the right or left, and is readily observed in the gymnasium. It is one of the normal functions of the spinal column, and adds a sinuous grace to the movements of the trunk. Its cause is found in the fact that when the spine curves laterally the bodies forming the anterior part of the vertebral structure are free to move laterally in the cavity of the chest and abdomen, while the processes forming the posterior part of the column are prevented from the same degree of lateral displace-

ment by being entangled in the parietes, composed of ribs, muscles, and fasciæ.

An important effect of rotation in the deformity produced by lateral curvature is seen in the fact that the curvature is greater in the anterior part of the column than in the posterior. A slight curve in the processes means a considerable curve in the bodies, and an early diagnosis may be made by looking for rotation rather than for curvature.

Rotation may be recognized in a case of incipient lateral curvature by observing scapular obliquity and a prominence of the transverse processes on the side of the convexity. Its effects on the ribs is to produce an inequality in the diagonal diameters of the chest, as detected by palpation between the two hands. In the absence of positive knowledge of the etiology he assumed that lateral curvature is an expression of inability on the part of the muscles (very likely of nervous origin) to hold the spine erect.

He declined to approve of braces applied for the forcible arrest or reduction of curvature. The mechanical difficulties are too great. A knee can be straightened by applying pressure from before backward in the neighborhood of the joint, and counter-pressure from behind forward at points remote from the joint on the long bony levers which compose this joint, but he would not try to straighten by pressure an upright column of a score of short bones thrown into a double or triple curvature with the added complication of rotation at two or three points in opposite directions.

He would advise the patient to avoid fatigue from whatever cause, and to assume for as many hours in the twenty-four as is practicable those attitudes in which there is the nearest possible approach to symmetry. In this way the increment which belongs to the growing child will be on the right side of the line between symmetry and deformity. The patient should sleep supine, with lordosis produced by an air-pillow. The same position should be taken a portion of every day. Suspension should also be practised up to, but not beyond, the point of fatigue.

Treatment of Lateral Curvature.—Dr. Bradford said that the study of lateral curvature has reached a new stage. More thorough methods of investigation have thrown doubts upon the former theories of etiology and pathology of this deformity, and to-day we are in search more critically for the truth in this surgical riddle. We may assume that the affection is in some way the result of superincumbent weight falling irregularly, owing to faulty attitudes, upon a spinal column, with an imperfectly resistant osseous structure, as is seen in adolescent knock-knee.

For convenience in treatment it is well to group the cases met in four classes: 1, Non-resistant curves; 2, slightly resistant curves; 3, severely resistant curves; 4, rigid curves.

It will be admitted that the affection is a self-limited one, and the distortion becomes in time arrested, and this arrest of increase may be observed as having taken place in each of the classes mentioned. Although this is doubtful as to the first class, it will never be safe to consider that an arrest has been established until some time after growth has been completed.

Treatment necessarily varies according to the class of the case. In the first class the treatment should be gymnastic or postural (Roth's method) according as the curve appears to be due to muscular weakness (determined by Scudder's method), or from habit. The chairs to be used, the hours of study, the amount of recumbency, and general hygienic measures, all need regulation. In this class of case a permanent cure can be expected if persistent care is used. In Class 2 the same measures are needed, supplemented by methods for forcible correction of the curve, such as has recently been recommended by Lorenz and others. This is also true to a greater degree in Class 3. The writer advised, in cases of this class, when from the probability of rapid growth or weak condition an increase of the curve was dreaded, to use for a time stiff corsets for the purpose of insuring avoidance of faulty attitudes as far as is practicable.

The writer has used leather corsets made from plaster jackets, but he has also recently tried plaster jackets applied to the patient, on whom lateral pressure as well as suspension is applied, though at present he is unable to give a definite opinion as to results.

In Class 2 a cure may be expected with an improvement of the curve. In cases of Class 3, prevention of an increase of the curve is all that can be expected. In cases of Class 4 the writer found no satisfactory results from treatment, other than the relief of symptoms of pain, by gymnastics and in some instances a corset.

The Treatment of Lateral Curvature.—Dr. Henry Ling Taylor said that in the absence of a scientifically observed and properly digested clinical history, and a satisfactory theory of pathology, there is no complete basis for a thoroughly rational treatment of lateral curvature. We must bear in mind that some cases have been arrested in the milder stage without treatment; others, however, and probably the majority of those brought to the surgeon, have a decided tendency to grow worse. In the milder stages of the affection, general and special hygienic and tonic measures should be adopted, and all the mental and bodily activities adjusted with a view to eliminating deleterious influences and invigorating the system. There is an undue proportion of the over-taxed, precocious, and intense type among these children, and careful investigation will often reveal mental, emotional, or physical over-strain in some direction. In general the school work will need regulation as to manner or quantity; piano practice should be reduced to a minimum or abolished, and anything that tends to pervert the storage of force or to disturb the equilibrium of the nervous system should be corrected. Habits of regularity in eating, exercise, and sleeping should be introduced, and moderate exercise, with stated rests in the daytime and plenty of fresh air should be insisted upon. The particular indications vary in the individual cases, but when seen early these measures are usually successful. If our recorded observations show that the patient is growing worse, we use, in addition, carefully regulated special exercises, some of them passive and given by means of apparatus driven by steam-power. These favor correction of the deformity, increase of flexibility in the stiffened regions of the spine, and improvement of circulation and nutrition, muscular tone, and general vigor. By these means we nearly always succeed in improving the general health, and frequently the carriage and figure of the patient, by the increased tone and buoyancy of the system. While active and postural exercises are undoubtedly beneficial, if used with judgment, we should avoid taxing the patient by a too strenuous insistance on them.

In many instances, in addition to these measures, the back will require mechanical support, which we furnish by an apparatus on the principle of lateral leverage, and adapt to the requirements of the case in hand, but only when the co-operation of the patient enables us to carry the case progressively forward by frequent manipulations of the apparatus to produce certain definite results; and thus, in properly selected cases, mechanical support has been a great aid.

A Report of Sixty-two Cases of Hip Disease, Observed in the Practice of Hugh Owen Thomas.—Dr. Ridlon reported on 62 cases of hip disease which he had personally examined and measured. Four were new cases, and were recorded simply to show the condition of cases when presenting for treatment. The average duration of limp in these cases before treatment was commenced was a little over ten months. The average duration of treatment was not computed, as only a few were cured cases, and as many had been under treatment but a very short time.

Of the 58 cases that had been under treatment for a longer or shorter time, 24 had shortening from one-quar-

ter to two and one-half inches; 24 had adduction; 5 had abduction; 3 had inward rotation; 2 had outward rotation; and 1 had in-knee. At some time during the course of their disease 24 had one or more abscesses. In 31 cases motion was not tested least it should harm the patient. In 27 it was tested; 12 had no motion; 10 had some motion; 2 had motion to ninety degrees; and 3 had normal motion. In all the cases the general health was good.

In conclusion the following suggestions were offered: In very many of the cases where the joints had been only partially immobilized (by the use of the short splint), and where there had been no protection from the superincumbent weight and the concussion of walking, the results were imperfect; but in those cases where the long splint had been worn until a cure had been effected, and where the horizontal position had been maintained until all pain and muscular spasm had subsided, and where crutches and a high patten had been employed, a cure had been effected without flexion or other deformity than the shortening due to actual bone erosion and arrested growth. Motion at the joint, in the cured cases, was found in a large proportion of cases as compared with the results of other plans of treatment.

Lateral Deviation of the Spine in Pott's Disease.—Dr. Lovett said that lateral deviation of the spine appeared to be a universal accompaniment of early Pott's disease in the lumbar and dorsal regions, and that it was a symptom of much diagnostic significance. The trunk is seen to lean to one side or the other and the distortion is much more prominent when seen in front than behind. This lateral distortion is accompanied with a certain amount of rotation of the spine on a vertical axis, but this does not occur so uniformly or follow the same rules as in true scoliosis.

In thirty consecutive cases of all grades of Pott's disease, recently measured, all but one showed lateral deviation from two to eight degrees. The deformity was least in cases under efficient treatment by braces or jackets. The deviation in most cases does not appear to be caused so much by unequal wearing away of the vertebral bodies, as to be a symptom due to irritation and muscular spasm, being analogous to the malpositions noted in hip-disease and tumor albus. The symptom improves rapidly under treatment, and although improving under any efficient treatment directed to the Pott's disease, it disappears most rapidly if the patients are treated by recumbency and spinal extension.

The Diseases of the Eye Associated with Caries of the Vertebræ.—Dr. Young in his paper pointed out the fact that the disease of the eye and the caries of the vertebræ are of the same pathological nature, strumous or tubercular, and have the same etiology, namely, insufficient diet and infection. He considers the majority of cases of spondylitis as tubercular; and stated that in scrofulous persons there is a constitutional predisposition to caseation or a tuberculosis of irritated parts, the scrofulosis, when the bacillus tuberculosis has actually infected the diseased area, being succeeded by tuberculosis.

The paper concluded with the following summary: 1. The diseases of the eye associated with caries of the vertebræ are scrofulous or tubercular, the difference being principally in degree. 2. Scrofulosis may be considered as the constitutional predisposition to caseation; tuberculosis as the same condition infected with the bacillus tuberculosis. 3. Both the lesions of the eyes and the caries of the vertebræ yield most readily to combined constitutional and local treatment.

Posterior Rachitic Curvature of the Spine.—Dr. Ketch said of the deformities of the spine whose underlying cause is found in the condition known as rachitis, the ones most commonly seen in practice are the lateral and posterior. The etiology and pathology of posterior rachitic curvature of the spine are essentially those of rickets in general, the deformity being simply one of the local manifestations of a general diathesis. Dr. Ketch believes the causation is largely mechanical, and furthered by such movements as tend to throw the weight of the body on the weakened vertebræ and its appendages. Rachitis of the vertebræ evinces itself, as does rachitis, usually at a very early period of life, by an irregularity in the process of ossification, by cartilagenous enlargements, and by marked diminution of the harder substances entering into the bony formation, notably the lime salts. In consequence of this unstable condition of the rachitic vertebræ, we find in the long axis of the spinal column many soft places, in some cases including the upper and lower surfaces of all the vertebræ, in others localized to a few.

A large number of cases show a limitation of the curve to the dorso-lumbar spine, a very favorite position for the occurrence of Pott's disease. In addition to the deformity we may have more or less pain, spinal rigidity, pseudo-paralysis, or any of the distinctive symptoms relating to the area of disease. He then called special attention to the differential diagnosis between this deformity and spinal caries.

In the treatment of young children from one to two years of age, he never advises the use of mechanical supports, the tissues being so unstable that any pressure is apt to be badly tolerated. In this class the constant recumbent position, with fresh air and sun-baths, together with internal treatment and close attention to the diet, are usually sufficient. In older cases, after the acute stage has passed, he advises antero-posterior support.

Relief of Paraplegia.—Dr. A. J. Steele, of St. Louis, said that cases of paraplegia, especially those resulting from acute polio-myelitis anterior, have been, by the employment of apparatus, placed on their feet so that with the aid of crutches they can get about well and comfortably. Massage and electricity find place, also division of the contracted tendons and tissues that prevent straight positioning of the limb. Then, over gypsum casts of the trunk, the thighs, and the legs, leather corset and encasing splints, accurately fitting and lacing in the front, are made. These and the shoes are connected together by riveting steel side-pieces jointed at the ankles, knees, and hips. Stop-joints are placed at the ankles to prevent falling of the feet beyond a right angle, also at the knees to prevent hyperextension, and lock-joints at the knees, by large ring, to allow of sitting; also at the hips when there is marked flexion. Strong webbing is placed back of the hip-joints, connecting the corset with the thigh-pieces, a substitute for the paralyzed extensors. Knee-caps may be necessary to overcome flexion at the knees. With the body thus encased the upright position and, after some education in the use of crutches, locomotion becomes possible.

The Prognosis of Pressure Paralysis.—Dr. T. Halsted Myers said: In 1,570 cases of Pott's disease presenting at the New York Orthopedic Dispensary, 218 were known sooner or later to have become paraplegic. Estimating the duration as to the period from the onset of any symptoms until the patient could walk well, the average duration of those paralyses whose duration was known was, in the cervical region twelve months, in the dorsal region above the eighth vertebra nine and one-half, in the lower dorsal six, in the lumbar eight months. This average period was less where the paralysis came on during treatment, as it did in 85 cases, viz., cervical five, upper dorsal seven, lower dorsal five, lumbar three months.

Neither the character of the kyphosis, the presence of abscess, the rapidity of onset, the duration of disease before onset of paralysis, nor the number of preceding attacks seemed to influence the prognosis. Paralysis of the bladder, lasting two months in several cases, and in two cases three and four months, was entirely recovered from.

Of all the paralyses whose termination was known, 115 in number, all but 4 or 5 recovered completely. These died of intercurrent diseases.

Election of Officers.—The following officers were

elected for the ensuing year: *President*, A. B. Judson, M.D.; *Vice-Presidents*, Ap Morgan Vance, M.D., and George W. Ryan, M.D.; *Corresponding Secretary*, Samuel Ketch, M.D.; *Recording Secretary and Treasurer*, John Ridlon, M.D.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Stated Meeting, September 22, 1890.

A. S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

Initiation Fee.—DR. C. H. AVERY, Secretary of the Society, withdrew his previous motion to reduce the initiation fee from five dollars to one dollar, in favor of an amendment to the By-laws recommended by the Comitia Minora to reduce this fee to two dollars, action to be taken thereon at the annual meeting. The Comitia also recommend that the editor of the Medical Directory be *ex officio* a member of the Comitia Minora.

Nominations.—For *President*, Andrew F. Currier, O. B. Douglas, J. L. Corning, H. T. Hanks (declined), and A. S. Hunter (declined); *Vice-President*, J. L. Corning, A. M. Jacobus, W. E. Bullard (declined); *Secretary*, Charles H. Avery; *Assistant-Secretary*, W. E. Bullard; *Treasurer*, John S. Warren; *Censors* (five to be elected), Daniel Lewis (declined), George E. Abbott, William McLaury, A. S. Hunter, R. Van Santvoord, E. A. Maxwell, Laurence Johnson (declined), G. T. Jackson, S. O. Vander Poel, N. G. McMaster, W. C. Jarvis, W. Washburne, C. F. Milne, G. F. Carey.

The Diagnosis and Treatment of Certain Abdominal Diseases Principally Characterized by Symptoms of Peritonitis.—DR. H. T. HANKS read the paper. A pretty broad field was covered in comparatively few words. Speaking of diagnosis, the author said that when symptoms of peritonitis were present the condition of all the abdominal organs should be interrogated before the conclusion was reached that it was idiopathic. It was strange what a change had taken place in our ideas about idiopathic peritonitis. Dr. William H. Draper had recently told him that on looking back over his experience he now recognized that few of the cases which he had once supposed were cases of idiopathic peritonitis were such in fact. Dr. Hanks had had but three or four cases, and in those it could not be positively said that the peritonitis was not secondary. In the past we had based the diagnosis of peritonitis on such symptoms as pain in the abdomen, tympanites, rapid pulse, pinched face, etc., symptoms which to-day we knew might be produced by hepatitis, perihepatitis, metritis, acute congestion of the kidneys, gastritis, etc.

The necessity for an accurate diagnosis became evident when the question of treatment arose. Should we go on giving large doses of opium in the treatment of cases which formerly were looked upon as peritonitis, but which under improved methods were now recognized as fecal impaction, appendicitis, pyosalpinx, etc.? The author related some cases, among them two of ovarian cysts with twisted pedicles, in which only an operative procedure could have saved the patient.

Keep the Bowels Open.—The author believed that when peritonitis existed or was threatened the bowels should be kept open by salines or enemata. An anodyne should be administered simply to procure comfort, and codeia was preferable to opium because of the constipating effects of the latter. If the fever was high the ice-coil should be applied. Probably the most common cause of general peritonitis was infection extending from the tubes or exposure and imprudence during ovulation. Appendicitis was another common cause. Wherever pus existed one should operate; where it had not formed, seek to make the patient comfortable, give codeia, use salines to keep the bowels open, apply leeches, hot douches in the rectum and vagina three or four times a day. Any case not profoundly septic would probably improve under such treatment. The author had operated for inflammation of the vermiform appendix three times, with one death; had treated ten other cases, suppuration taking place in but one. If under the local treatment suggested for these cases the symptoms gradually grew worse, especially if the pulse became more and more rapid, the face more and more anxious, the pain more and more severe, even though the temperature did not run high, the laparotomist should be summoned. Some had advised an operation even before pus had formed. The mortality from the operation had been great.

Peritonitis in Children.—DR. A. JACOBI was requested to open the discussion, and, at the suggestion of the author of the paper, made some remarks on peritonitis in children. He said that pathologically and anatomically it was the same in infants as in adults; the causes were about the same, except a large number of cases in the adult originated from pelvic tumors. He agreed with the author that in nearly all cases peritonitis was secondary, in many cases the diagnosis of this disease was erroneous, yet in many more instances its presence was overlooked. Many cases of so-called belly-ache were due to peritonitis, sometimes acute, oftener subacute, but most frequently exacerbations of chronic peritonitis. A typhoid ulcer might leave a spot where perforation would take place twenty years after typhoid fever. Agglutinations between the intestines, found where not expected, meant old peritoneal inflammation. Such patients complained at times of abdominal pains. Perityphlitis was common in children, exacerbations occurred and, perhaps, compelled them to go from school to their homes, where they might get a whipping for having the belly-ache or be so sick as to compel the attendance of a doctor. Children with abdominal pains due to recurrent peritonitis should always wear a tight bandage to keep the bowels from jolting.

Opium or Laxatives?—Dr. Alonzo Clark, he said, was one of our great men. He instituted the opium treatment of peritonitis in severe acute cases. Laxatives had been given very early before his time, but with the opium treatment patients were found to do better, and it was concluded that, as a general thing, purgatives in peritonitis would not do good; that they were apt to do harm, always excepting cases the result of fecal impaction, where the bowel must first be emptied and rest secured afterward. If, then, the opium treatment proved best in Dr. Clark's hands, and the laxative treatment proved best in Dr. Hanks's hands, it certainly behooved us to find out in what cases the one treatment was demanded, and in what ones the other, or whether purgatives were called for in the beginning and rest afterward. Where peritonitis had existed more than a day or a day and a half adhesions would have formed, and a purgative would cause them to break and give rise to hemorrhage and renewed inflammation. The speaker was sometimes unable to say at the bedside whether a purgative or opium was called for, but when the latter it should be given in sufficient amount to cause sleep for at least twenty-four hours.

Peritonitis in Bright's Disease.—DR. WILLIAM H. THOMPSON said he would speak of two facts only. The first was the frequent presence of purulent peritonitis found post mortem in cases of Bright's disease, which had, perhaps, not even been suspected during life. He always looked for it in the terminal stage of Bright's disease when there was a small, rapid, incompressible pulse, the incompressibility differing from that peculiar to the kidney disease itself. The temperature might not be increased in the least.

The other point was the absence in many instances of pain or rise of temperature from intestinal perforation in typhoid fever. If anything could be done here it rested with the surgeon.

Cirrhosis of the Liver and Peritonitis.—Dr. Thompson corroborated Dr. Jacobi's remarks on the frequency of peritonitis, and said it was usually present all over the

abdomen in cirrhosis of the liver, and was more often the cause of abdominal pains in alcoholics than was gastritis or gastro-duodenitis.

A Sudden Pain Diagnostic.—He said there was a diagnostic point connected with a sudden pain, as distinguished from a slowly developing pain in general peritonitis. It indicates perforation of the hollow viscera.

Three Classes of Cases.—Dr. C. C. Lee divided the cases of peritonitis from the view of treatment into three classes. The first comprised those of a septic nature, following laparotomy, many of which formerly died, but now often recovered under the only proper treatment, namely, operation. The symptoms of peritonitis here simulated a malarial condition. There was less pain than in other cases. The second class included acute cases, which might be called traumatic. Here the question of opium or cathartics arose. He thought abdominal surgeons were in error in leading physicians to think that salines would cure all these cases. They removed only one of the complications of the peritonitis, namely, fecal accumulations or gases. He would begin the treatment of such a case by a saline cathartic, and then seek to keep the bowel quiet. Nothing was better for this purpose than opium unless it was codeia. As to the ice coil, it was useful only in the formative stage; as soon as the stage of plastic deposit had arrived it would do harm rather than good.

In secondary peritonitis, successful treatment depended on removing the cause. It was more a question of when not to operate than when to operate. He thought we would return to a lesser amount of abdominal surgery than is being practised to-day.

Puerperal Peritonitis.—Dr. Egbert H. Grandin limited his remarks to puerperal cases. In the early part of his professional career he began at once, when he met with a case of peritonitis, to dose the patient with opium, and she died. Of late years he had altered his therapeutic methods to a considerable extent. He saw fewer cases of puerperal peritonitis since cleanliness had become almost universal, yet, when a case did arise, he began treatment with salines, and continued their use and avoided opium as far as possible. They brought about a derivative effect, also prevented adhesions, and led the patient to recovery. The vagina and uterus should be kept clean. If there was rupture of a pyosalpinx or ovarian abscess, laparotomy would be called for.

Opium too long Continued.—Dr. Ralph Waldo said he had had occasion to see patients who had been treated successfully for repeated attacks of acute peritonitis by opiates, but the narcotic had been continued longer than necessary, the patient calling for it on account of her hyperæsthetic state, and the result was such complications as impaction of fæces and digestive derangements.

Severe Peritonitis Fatal.—Dr. R. A. Murray emphasized the fact that primary peritonitis seldom occurred, and said that in really severe peritonitis all remedies almost always failed. Puerperal peritonitis was most often seen by the general practitioner, and treatment by either opium or laxatives was likely to fail, simply for the reason that the cause, infection, was not removed. Keep the uterus clean, as one would keep the abdomen clean after laparotomy. In peritonitis after operations, salines removed serum and the nidus for the development of germs; follow them by opiates to secure rest; if there was shock, give large doses. Modern treatment by opium was very different, he said, from what Dr. Clark had meant, which was to administer it in large amount where there was shock and prostration of the nervous system. It acted as a powerful heart stimulant. If there was sepsis the source of infection must be removed.

Hot Claret is said to be an excellent gargle in acute sore throat, being an agreeable astringent and non-poisonous.—*College and Clinical Record.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

AUTUMN CONGRESSES—THE SANITARY INSTITUTE CONGRESS—NATIONAL LOSSES THROUGH SICKNESS—THE LIVING EARTH AS A SANITARY AGENT—THE BRITISH DENTAL ASSOCIATION—FASHION IN REMEDIES—DEATH OF DR. MATHEWS DUNCAN.

London September 5, 1890.

The autumn is generally the season of congresses, and among those just held or now in progress are the following: The Sanitary Institute Congress, the Annual Meeting of British Association for the Advancement of Science, the Annual Meeting of the British Dental Association, and the British Pharmaceutical Conference. Sir Thomas Crawford was the President of the first-named of these gatherings. In his address he pointed out anew the important amount of labor lost to the nation through sickness on the part of the workers. He illustrated his remarks by statistics drawn from the records of the Army Medical Department. As the former chief of the Department Sir Thomas Crawford was naturally completely at home in this field. He showed that, adding to the actual sick-leave the probable duration of the non-effectiveness of men invalided, the average sick time would be about twenty days per man per annum. There were no trustworthy statistics of sickness among civilians, though, from the various data available, Sir James Paget had maintained that the loss from sickness between the ages of fifteen and sixty-five in England and Wales amounted to twenty million weeks' work per annum, or one-fortieth of the work done in the year by the whole population within the limits of age stated.

In the section of Sanitary Science, the President (Dr. Vivian Poore) gave an address on "The Living Earth." We had, he said, arrived of late years at a certain knowledge of the fact that the mould which formed the upper stratum of the ground we lived on was teeming with life, animal and vegetable. Saprophytes and their allies abounded everywhere. These micro-organisms were very active in producing changes in organic matter added to the soil—changes usually in the direction of oxidation. If the soil were sterilized, by heat or otherwise, it was no longer capable of producing any chemical change in organic matter. The vegetable living mould on the surface was a filter of the most perfect kind. Some of the bacteria in the soil might be hurtful to mankind, but, as a general rule, the great doctrine of the survival of the fittest held good for them. Organisms that flourished in the human body languished and ceased to multiply in the soil where conditions were unsuitable for their multiplication, or even for their survival. In our sanitary arrangements we had not sufficiently distinguished between the living mould and the dead earth of the subsoil. When we perforated the living humus with a pipe and took our dirty water to the subsoil we, as it were, pricked a hole in our filter. Sanitation was purely an agricultural question, and in the country, where every cottage had, or ought to have, its patch of garden, there ought to be no difficulty in the daily removal of refuse from the house, and in applying it to agricultural purposes without any risk of contaminating the water-supply. Sanitation by water had for its main characteristic incompleteness, and Dr. Poore argued at some length in favor of the earth system.

Dr. Rentoul's scheme for a public medical service has not found much favor with the medical profession. At the annual meeting of the British Dental Association, however, the Honorary Secretary (Mr. Morton Smale) said the Council had been considering how dentists could join in the scheme and provide the industrial classes with good professional attendance at a moderate cost. Mr. Browne-Mason, in his presidential address, urged the ap-

pointment of dentists in military and in naval hospitals and at naval stations.

At the British Pharmaceutical Conference, the President, Mr. Charles Umney, spoke at some length in his presidential address on the subject of fashion in medicine. He decried the practice of discarding antiquated —though well-tried—remedies in favor of newly introduced ones. The fashion of prescribing medicines in the most concentrated form in which the ingredients were compatible was a dangerous one to the public, owing to their inability to measure small doses exactly. Mr. Umney laid great stress on the subject of the injudicious selection by the public of household medicines. All patent medicines were not useless or dangerous, but he could not remain oblivious to the fact that a section of the public became habituated to the use of narcotics solely from the cloak adroitly spread around the matter by the patent-medicine regulation. I must defer till my next letter some notes on some topics of medical interest discussed at the British Association Meeting at Leeds.

By the sudden death of Dr. Mathews Duncan at Baden-Baden, a few days since, British obstetric medicine loses one of its foremost exponents. Born in Aberdeen, sixty-four years ago, Dr. Mathews Duncan graduated at the university in that city and soon began to work specially at obstetrics, and his original work in various departments of obstetric science gained him considerable renown. His reputation was not confined to the north of the Tweed, for about a dozen years since he was invited to come to London to accept the post of Obstetric Physician to St. Bartholomew's Hospital, an invitation which he accepted. Dr. Duncan's advent to London followed shortly upon that of Sir Joseph Lister (then Mr. Lister) who similarly came south by special invitation. A rather ill-natured rumor was circulated at the time concerning the manner of his coming. In issuing an invitation to Mr. Lister to come to London and accept the post of full surgeon to King's College Hospital some members of the medical and obstetric staff of that hospital were, it was said, specially active. It was hinted that metropolitan hospital surgeons were by no means anxious to have such a distinguished northern surgeon as Mr. Lister brought to London as a rival, and that they revenged themselves on the obstetricians by promoting Dr. Duncan's candidature at St. Bartholomew's Hospital. Be this as it may, a probably important factor in determining Dr. Duncan to come south was his failure to secure the chair of midwifery at the University of Edinburgh. He was then an extra-academical teacher at Edinburgh and became a candidate for the professorial chair on its becoming vacant. He was without question the most distinguished candidate in the field, but the professorship was bestowed on Dr. Russell Simpson, a relative of the late Sir James Y. Simpson. On coming to London, Dr. Duncan speedily gained a position as a teacher and practitioner. St. Bartholomew's is the largest of the metropolitan medical schools and Dr. Duncan soon impressed those around him with a sense of his individuality. He was a man in whom patients felt confidence and soon acquired a large consulting practice. In 1880 he became an examiner in obstetric medicine at the University of London. In this capacity Dr. Duncan perhaps shone least; at any rate, he was by no means a favorite with candidates. In 1883 he delivered a course of lectures on "Sterility" at the College of Physicians. He wrote papers also from time to time, but most of his original work was done in Scotland in earlier years. By that he will be chiefly remembered. Though not without his crotchets, even those differing from him could not but acknowledge that Dr. Duncan was a master in his own department, and his death is undoubtedly a loss to medical science.

The Asheville Medical Review is the name of a new medical monthly at Asheville, N. C., and edited by Drs. F. T. Meriwether and H. Longstreet Taylor.

HYDROPHOBIA BEFORE AND AFTER PASTEUR.

To the Editor of the Medical Record.

SIR: In your number of September 13th I saw an editorial entitled "Hydrophobia Before and After Pasteur," which to some extent concerns the New York Pasteur Institute. For this reason I take the liberty of appealing to your courtesy and to your sentiments of medical confraternity, and of begging you to allow the Director of this Institute to answer this article by showing, as well as possible, the present position of the question of the preventive treatment of rabies. Indeed it is an important question from the stand-point of human life and of the frightful anxiety that may be undergone by an all too large number of unfortunate victims. Moreover, you are certainly led by sentiments too lofty to set aside anything that may serve to enlighten the profession upon the matter, and to establish the facts under their true light.

The article in question asserts that "rabies increases *pari passu* with the erection of institutes intended to prevent it." I am led to wonder upon what documents such an allegation is based. I know that the authority of Professor Peter, the declared enemy of all new theories, is advanced. But this authority loses considerable weight if we consider that Dr. Peter is by no means an experimenter, and that he still denies the influence of microscopic organisms upon the production of infectious diseases.

However, as I am not willing to concede that my brethren possess a tendency to knowingly alter facts, I shall admit at once that cases of bites by rabid dogs have more frequently been recorded in America (as elsewhere) since the opening of the Pasteur Institute. This fact admits of most easy explanation; people that had been bitten have come for treatment from Nebraska, from Louisiana, from Arkansas, from Arizona, from Texas, from several of the Eastern States, from Canada, etc., generally under advice of their physicians. Am I wrong in asserting that no one in New York would ever have heard of these cases if they had not come to New York for treatment? Thus does "rabies increase *pari passu* with the erection of institutes founded for the purpose of preventing it."

I will not stop to refute the statement that people who die of rabies die of fear only. This is rather too childish; in that case the animals who die of rabies after inoculation of saliva, or, better, of the nervous substance of such patients, also become afflicted with an imaginary ailment!

"*Alors, à quoi bon, Pasteur,*" if the partisans themselves of his method demand police regulations to cope with an increase of cases? Such is the question asked by the Medical Record, after Peter. This can scarcely be allowed as a reasonable objection. Can Pasteur be responsible for recrudescences that may occur in canine hydrophobia? Moreover, one might as well say, Wherefore your vaccinations since your boards of health take such stringent measures against the spread of small-pox?

Then I must state that before Pasteur's discovery many people who had been bitten submitted themselves more or less stoically to their fate. Nowadays, knowing that a preventive method against rabies exists, once bitten, people are informed of it, and the patients go and seek treatment. If it is shown that the biting animal was rabific, or reasonably suspected of being so, they are treated; if not, they are reassured and sent away. Among six hundred people who presented themselves at the New York Institute during seven months, a hundred and twenty were kept, and that for the whole of the United States. I will add that not one of the people who have been treated is dead, whereas, to my knowledge, about a dozen deaths caused by rabies have occurred during the same space of time in people who were not treated. In two cases, moreover, the same dogs who had caused a

fatal termination in other persons had also bitten people who were treated and are well.

It is insinuated that "preventive inoculations are capable of giving rabies." To this insinuation facts answer, most emphatically, no. Here is the reason:

1. Among ten thousand people who were inoculated in Paris, about fifty—or about one in two hundred—have died, notwithstanding the treatment (either having applied too late for inoculation, or for other causes). If these persons had died by reason of the preventive inoculations, the intracranial insertions that were performed on rabbits with the bulbar matter of these patients would have killed the animals in a period of from nine to eleven days, as always occurs when the powerful virus employed at the end of the treatment is used. On the contrary, it was not until eighteen to twenty days that death supervened in the animals that were experimented on, just as happens when they are inoculated with virus taken from the common mad dog. These people, therefore, were not killed by the virus of injection, but by that of the animals that had bitten them.

2. Another proof that Pasteur's inoculated patients did not die of the treatment lies in the instance of the five people who died after the injections that were performed by Dr. Bareggi, of Milan, *after the method of Ferran* (extra virulent inoculations performed *ab initio*), and not after Pasteur's method. These people presented an altogether different set of symptoms (light headaches, vomiting, progressive paralysis of the lower extremities with fever, without salivation or sensorial irritation, nor had they difficulty in drinking, nor photophobia, nor delirium, nor convulsions).

As to the efficacy of the treatment—now that I have shown its innocuity—I feel nearly puzzled as to how to go to work about defending it, so much does it appear as a commonplace to speak to-day of the true and marvellous results that have been acquired and observed by all who have taken the trouble so see and find out for themselves.

At present the physician has somewhat left behind the domain of theory, and is advancing rapidly within that of the experimental method; facts are needed. Now here is a truly characteristic observation; it is that among Pasteur's adversaries there is not a single experimenter: they are all theorists and students of deceitful statistics, nothing more.

At the last Congress in Berlin, after I ended the reading of my communication upon the subject now in hand, a discussion took place, not upon the value of the preventive treatment, for its efficacy was unanimously conceded, but upon details and certain modifications connected with the method of inoculation. Professor Babes, of Bucharest, among others, reported several most interesting observations, especially this one, to which I beg to call your attention: In the environs of Bucharest a mad wolf bit thirteen people and thirty domestic animals (oxen, horses, pigs, dogs). The thirty animals died of rabies; one of the men, who had neglected to have himself inoculated, acquired hydrophobia and died also; another man died of the traumatism inflicted by the wolf, but the other eleven people who received inoculations in the Pasteur Institute of Bucharest are in excellent health now, two years after.

In Russia such observations have been repeated many times, owing to the ferocity of rabid wolves.

I may not prolong this answer, already having, I fear, trespassed upon your space, I merely affirm, with all the energy I possess, that any medical man who, in good faith, may wish to convince himself, need only look over the observations that have been published of late years and especially study the documents that are furnished every month by the *Annales de l'Institut Pasteur de Paris* (see also my article in the *North American Review*, August, 1890).

Kindly accept the assurance of my high consideration,

PAUL GIBIER, M.D.

178 WEST TENTH STREET.

A MERE DIFFERENCE OF OPINION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The caricaturist sometimes makes a hit at the medical profession by pretending to report the proceedings at our medical meetings, wherein Dr. A proves that such and such a course of treatment is the proper one for a certain disease; Dr. B then rises, compliments his learned brother on his admirable paper, says he agrees with him in the main, and then proceeds to show that exactly the opposite line of treatment to that advocated by Dr. A is the only proper one.

Dr. C next compliments both of the previous speakers, and then states that later investigations have proven that the plans of treatment advocated by both Dr. A and Dr. B are not only useless and old-fashioned, but are really dangerous. Then, according to the caricaturist, the discussion soon ends, leaving the hearer in doubt if anything is really known about therapeutics by any of the doctors.

Of course we doctors pronounce such articles a libel on our noble profession—that is, we tell the laity this.

Fortunately for us, the laity do not, as a rule, attend our meetings or read the medical journals.

The report in your journal of the discussion on chronic nephritis, before the Section on Internal Medicine, at the late International Congress in Berlin, might serve as a handle to our detractors were the reports printed in the secular press.

Even to the young and enthusiastic physician who had attended the meeting expecting to hear the last, final, definite word on an important subject, by these leaders of the medical profession from all parts of the world, the discussion must have been confusing if not amusing.

According to your report, Dr. Lépine, of Lyons, opened the discussion by stating that diet is of the greatest importance in this disease, and that a diet low in albuminoids is indicated. He then states that "milk is the best food for patients with chronic kidney disease." Now milk is nearly as pure an albuminoid food as we have, excepting lean beef. According to Dr. Donkin, in "Diabetes and Food," a pint of skimmed milk contains fifteen ounces of casein; and eight to twelve pints of milk (partly in curds) per day, which would be about the proper amount for a patient on a milk diet, contains a larger quantity of albuminoid food than can be taken in any other form. From all of which it would seem that there is an inconsistency between Dr. Lépine's theory and practice.

Dr. Lépine then speaks highly of the iodide of potassium in the arterio-sclerotic form of the disease; condemns strophanthus; mentions digitaline and caffeine for certain conditions; and warns against the use of the vapor-bath, for fear that it may cause uræmia.

Dr. Grainger Stewart followed Dr. Lépine. He favors hot-air and vapor-baths in cases of uræmia; knows of no medicines for the disease under consideration; favors Dr. Lépine's ideas as to diet, and uses the milk diet.

Dr. Rosenstein, of Leyden, then maintained that "no medicines are of benefit except in the treatment of complications;" diuretics in dropsy not so good as simple rest in bed; condemns calomel; and is not partial to the use of milk, which is too strong a diuretic and causes a slight gastritis.

Dr. Senator, of Berlin, agreed with all the previous speakers as to "the inefficacy of drugs in the treatment of chronic nephritis." "In certain varieties of nephritis, dependent on arterio-sclerosis, however, iodide of potassium is of real service." In these patients "this drug should be given as soon as the albumin appears."

This was something definite and would be very clear and comforting to the listener had not the next speaker, Dr. Aufrecht, of Magdeburg, stated that he had "repeatedly tried the use of iodide of potassium in these cases and had never seen the slightest benefit result from its employment."

Thus ended the discussion. In summing up we find

that Dr. Lépine favors the non-albuminous diet and keeps his patients on milk; uses iodide of potash; condemns strophanthus and the vapor-bath. Dr. Grainger Stewart favors the hot-air and vapor-bath, and the milk diet; knows no remedy for the disease. Dr. Rosenstein, is against all medicines and not partial to the milk diet. Dr. Senator agrees as to the inefficacy of drugs, with the sole exception of iodide. This is of great value. Dr. Aufrecht is certain that iodide is not of the slightest use.

In consulting the above list and eliminating those remedies that are rejected by at least one of the authorities quoted, we find we have absolutely nothing left, not even an accepted dietary.

Surely the recording angel, your reporter, if there were a spark of humor in his nature, must have smiled as he made up his report; while the young and earnest seeker after scientific certainties must have reached the conclusion that the only certainty in the therapeutics of chronic nephritis is that nothing is certain.

W. E. FOREST, M.D.

39½ WASHINGTON SQUARE.

THE AMERICAN DELEGATES TO THE BRITISH MEDICAL ASSOCIATION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: On my return from my holiday I have read with much regret the paragraph in the MEDICAL RECORD for August 30th, in which complaint is made that some American delegates were treated with discourtesy at the Birmingham meeting. I issued on behalf of the Local Executive Committee a number of invitations to universities and corporations in America, requesting them to send delegates to the meeting, and asking that in each case the gentlemen appointed should forward their credentials to me. In every instance where this was complied with the delegate was invited to stay during the meeting at the house of some Birmingham citizen of good social position, was given tickets admitting him to everything open to members of the Association, and an invitation to the dinner. I also made it my business to entertain some of these gentlemen at my own house and to procure for others private invitations from the President and other local officials.

With respect to certain garden parties, it was not possible for them to be open to all members, on account of the limited space, and unless it were to be understood that nobody should give a garden party unless he could entertain fifteen hundred persons, I imagine the same difficulty will recur.

I can only express regret if any delegates from America came to Birmingham without furnishing me beforehand with proper credentials. If any dissatisfacton arose it was not the fault of the local executive, who had taken special measures to provide for the proper reception of foreign visitors, many of whom I am sure would testify to the hospitable entertainment they received here. I beg to enclose you a list of the American delegates who presented credentials to me.

I am, dear sir, yours faithfully,

ROBERT SAUNDBY, M.D.,
Hon. Local Secretary.

BIRMINGHAM, September 18, 1890.

FOOT-AND-MOUTH DISEASE AND SCARLATINA: A CORRECTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In Dr. Stickler's paper on the above subject, in your issue of September 13th, he attributes to me a statement which is so entirely at variance with truth that I must crave the privilege of correcting it. To say that "foot-and-mouth disease had at times attacked nearly all the people of Great Britain," is a statement so preposterous that no one at all conversant with the facts could possibly have made it, and most certainly I never did.

To repeat what I did say, when discussing Dr. Stickler's paper before the Academy of Medicine in 1887, it becomes necessary to premise that in that paper Dr. Stickler strove to *identify* the foot-and-mouth disease with scarlatina. It was in view of this claim that I criticised his paper, and among other things I said that throughout Great Britain farmers were in the habit of purchasing their stock for winter feeding at large fairs or markets, and that as foot-and-mouth disease was perhaps the most contagious of all diseases of ruminants, the droves brought from such markets in certain years had, as a rule, brought the disease with them and contaminated the home stock. In such cases all who took the milk of the infected cows on such farms were exposed to the infection. Similarly at that date in Great Britain the city dairies were replenished at frequent intervals with cows drawn from the public markets, and already in fine condition, and these were turned over to the butcher in from two to six weeks if they contracted *lung-plague*, or in six to nine months, when the yield of the milk began to shrink, if they escaped that disease. Thus the city dairies, being all the time restocked from the public market were all the time exposed to contract foot-and-mouth disease, and as a matter of fact those cows that had passed through the limited period of acquired immunity did really contract the affection. By this means the city population were very frequently exposed to the infection, and if the diseases were identical, all persons who had not already suffered from scarlatina should have contracted the malady.

This you will perceive is a widely different claim from that so erroneously attributed to me by Dr. Stickler. He makes me say that nearly the whole British nation had suffered from foot-and-mouth disease. What I did say was that they had been exposed to the infection, and would have suffered, if the claim of the identity of the two diseases set up by Dr. Stickler had had a basis of truth. That the nation had *not* suffered proved that Dr. Stickler's claim was ill-founded.

The quotations from Sir James Paget and Professors Walley and Klein do not in the least invalidate my position; they merely meet the baseless charge made by Dr. Stickler. Not one of them denies the great prevalence of foot-and-mouth disease among farm animals in past years.

But lest any one should suppose that their denial may have a bearing on the brute as well as the human population, allow me to quote from the official records of Great Britain the number of cases of foot-and-mouth disease reported in certain recent years. The reported cases may be safely assumed to come far short of the actual ones. The report of the Veterinary Department of the Board of Agriculture claims for 1870, 457,584 cases; 1871, 691,589 cases; 1881, 183,046 cases; 1883, 461,145 cases.

As Dr. Stickler has apparently abandoned his former theory of the identity of the two diseases, it is perhaps needless to add that any such identity must have long ago told most disastrously on the flocks and herds of America. Scarlatina prevails constantly in some parts of the United States, whereas foot-and-mouth disease has been seen only at long intervals, and has always been easily traceable to the importation of diseased stock from abroad. In no case has it been impossible to trace the actual steps by which the infection advanced, and in no case was it traced to contamination from cases of scarlatina in man. In view of such facts the occasional coexistence of foot-and-mouth disease and scarlatina in England must go for naught so far as the question of identity is concerned. Either the concurrence of the two diseases was a mere coincidence, or the disease was, in man and beast alike, a simple scarlatina or a simple foot-and-mouth disease, and not the protean malady claimed by Dr. Stickler.

That the two diseases should have been confounded is

not at all surprising considering the confessed ignorance of foot-and-mouth disease on the part of physicians. Of this ignorance we have a striking example in the claim of Mr. Ceely, of Aylesbury, that a herd of cows had contracted cow-pox from infection through the bed of a deceased small-pox patient. The occurrence took place in 1840, when the foot-and-mouth disease was most unusually prevalent, and the symptoms described are unquestionably those of foot-and-mouth disease, and not of cow-pox. Yet this occurrence has been quoted far and wide as a proof of the identity of the virus of variola and vaccinia.

I have not entered on the alleged prophylactic value of foot-and-mouth disease against scarlatina, but I may suggest in conclusion that, irrespective of the actual occurrence of the disease in man, the consumption of the ptomaïnes in meat and milk, in those European countries where this disease prevails, should render the systems of the persons who consume such food comparatively insusceptible, and should greatly diminish the susceptibility to scarlatina if the one disease is in any degree vicarious of the other. To confine our attention to Great Britain alone, the statistics of scarlatina from 1800 to 1839, a period during which there was no foot-and-mouth disease in England, should be compared with the period 1839 to 1886, during which the disease prevailed uninterruptedly. Since 1886 the disease has disappeared from the official government records of Great Britain. Children born since that date should therefore compare closely with persons living prior to 1839. If it can be shown that there is a marked difference as regards the prevalence of scarlatina in these respective periods, there will be some ground for the conclusion that that disease is affected by foot-and-mouth disease. If no such marked difference can be shown the presumption must be visionary. A demonstration on such a large scale is not likely to mislead. Respectfully,

JAMES LAW.

CORNELL UNIVERSITY, ITHACA, N. Y.,
September 20, 1890.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 21 to September 27, 1890.

KIMBALL, J. P., Major and Surgeon. In view of the early abandonment of Fort Elliott, Tex., to which post he is at present assigned for station, is relieved from duty at that post, and will, upon the expiration of his present sick leave of absence, proceed to Fort Supply, I. T., and report to the commanding officer for duty. S. O. 132, par. 2, Department of the Missouri, September 24, 1890.

Under the provisions of General Orders No. 43, c. s., Headquarters of the Army, Adjutant General's Office, the post of Little Rock Barracks, Ark., will be abandoned, to take effect not later than October 1, 1890. G. O. 15, Headquarters Department of the Missouri, St. Louis, Mo., August 11, 1890.

BROWN, PAUL R., Captain and Assistant Surgeon. To accompany Company E from Little Rock Barracks, Ark., to Fort Supply, I. T., and there take station until further orders. G. O. 15, Headquarters Department of the Missouri, St. Louis, Mo., August 11, 1890.

EWING, C. B., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect the 1st proximo. S. O. 131, par. 5, Department of the Missouri, St. Louis, Mo., September 22, 1890.

APPEL, AARON H., Captain and Assistant Surgeon. The leave of absence granted for seven days, by the commanding officer at Fort D. A. Russell, Wyo., is extended twenty-three days. S. O. 70, par. 3, Department of the Platte, September 17, 1890.

MIDDLETON, JOHNSON V. D., Major and Surgeon. Relieved from duty at David's Island, N. Y., and will report in person to the commanding officer at Fort Columbus, New York City, for duty at that station, relieving Major Joseph R. Gibson, Surgeon, and reporting by letter to the commanding general, Division of the Atlantic. S. O. 219, par. 1, A. G. O., Washington, D. C., September 18, 1890.

GIBSON, JOSEPH R., Major and Surgeon. On being relieved by Major Middleton, will report in person to the commanding officer at David's Island, N. Y., for duty at that station, and by letter to the Superintendent of the Recruiting Service. S. O. 219, par. 1, A. G. O., Washington, D. C., September 18, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 27, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	47	16
Scarlet fever	21	3
Cerebro-spinal meningitis	3	3
Measles	27	2
Diphtheria	51	11
Small-pox	1	0
Cholera	0	0
Pertussis	0	0

Is Hypnotism Humbug?—"I find it difficult to discuss the matter with patience. That the phenomena of hypnotism exist and that they command the earnest investigation of scientific men there is no doubt. But I do not believe the time has come to use the method as a remedial agent. We don't know enough about it. I am sorry to say I cannot draw a sharp line between some of the phenomena of hypnotism and the ideas of the spiritualists and old-fashioned mesmerists. The charlatans who use the system to humbug the public are frauds who should be suppressed. Did you ever see a collection of photographs of those people? The rogues' gallery would be a collection of gentlemen compared with them. And yet they undoubtedly have a mysterious power over certain persons. Animal magnetism won't account for it. I saw the other day the daughter of a New York physician, a delicate, beautiful young girl, completely hypnotized by one of the ugliest, most repulsive-looking Russians you ever saw."—E. C. SPITZKA.

"The first thing that strikes me in connection with hypnotism is the confidence with which it is asserted that it has been proved beyond dispute to be so successful that it cannot drop. But I am old enough to remember that this was said in the time of mesmerism. Practically, mesmerism fell into desuetude fifteen years ago. Except in distant corners such a thing is scarcely heard of. Now, from some researches which have been conducted at Nancy, and stimulated by the opposition of the Salpêtrière school, we have the subject once more brought before us, and we are told of the advent of a great and important practical truth. Therefore we are told that hypnotism has established itself for all good. I have no hesitation in prophesying that before twenty-five years have passed it will be in the same position that it was twenty-five years ago."—SIR ANDREW CLARK.

It Wasn't His Tooth.—Countryman to Dentist: "I wouldn't pay nothing extra for gas. Just lug her out. Never mind if it does hurt." Dentist: "Well, you are plucky, sir. Let me see the tooth." Countryman: "Oh, 'tain't me that's got the toothache: it's my wife. She will be here in a minute."

A Model Polyclinic.—A Western physician, desirous of supplying a long-felt want in the shape of a new medical school for his native city (population 2,400), travelled in search of information. The following bit of experience is given by him in the Cincinnati *Lancet Clinic:* "For a year past, I have noticed in the *Journal of the American Medical Association* the advertisement of a polyclinic, a clinical school for post-graduates. Being a new enterprise, I felt, of course, a great desire to see its workings, and from its name and object of teaching post-graduates I supposed that the faculty, with the exception of five or six members, whom I knew by reputation, had been specially imported, as the names of the rest were unknown to me. When I arrived at the place, I found a two-story house with a sign reaching across the whole front. Entering the front room on the first floor, I found a number of women sitting, each having a baby on her lap. On inquiring for the professor, I was requested to sit down, as he was in the next room and would be in presently. I did not have long to wait, for in a few minutes a young man came in, apparently about twenty-seven years of age, who told me, on introducing myself, that he was Professor Blank. I informed him of the object of my visit, namely, to go through the institution. I was told that he had nothing else to show me but these rooms. I asked where the lecture-rooms were, and he said they had no occasion for one, as students had not yet materialized, and the clinics were only for the benefit of the poor. On inquiring how the institution was kept up, I was told that each professor was assessed monthly for an equal share of the expenses. This is certainly the most self-sacrificing institution I have ever met. The doctors spending their time to treat people gratis, and paying monthly from $15 to $20 for the privilege of doing so."

Impurities under Finger-Nails.—The progress of bacteriology has shown that aseptic surgery means scientific cleanliness; the same lines of investigation show how very dirty people can be. Seventy-eight examinations of the impurities under finger-nails were recently made in the bacteriological laboratories of Vienna, and the cultivations thus produced showed thirty-six kinds of micrococci, eighteen bacilli, three sarcinæ, and various varieties; the spores of common mould were very frequently present. The removal of all such impurities is an absolute duty in all who come near a parturient woman or a surgical wound. It is not enough to apply some antiseptic material to the surface of dirt; the impurity must be removed first, the hand antisepticised after. Some physicians, when intending to drain dropsical legs by acupuncture or other methods, are very careful to use antiseptic dressings, and in such cases have the feet and toenails purified and rendered aseptic as far as possible. It is sometimes said that the scratch of a nail is poisonous. There is no reason to suspect the nail-tissue; it is more likely the germs laid in a wound from a bacterial nest under the nail. Children are very apt to neglect to purify their nails when washing hands; and this matter is not always sufficiently attended to among surgical patients. Personal cleanliness is a part of civic duty, and, as Dr. Abbott well expressed the matter in his address to teachers, should be taught to school-children and insisted on in practice. The facts we have recorded might well form the text for a school homily, especially when any epidemic was in the neighborhood.—*The British Medical Journal.*

Some Milk Statistics.—The *American Analyst* says that there are $2,000,500,000 invested in the dairy business in this country. That amount is almost double the money invested in banking and commercial industries. It is estimated that it requires 15,000,000 cows to supply the demand for milk and its products in the United States. To feed these cows 60,000,000 acres of land are under cultivation. The agricultural and dairy machinery and implements are worth $200,000,000. The men employed in the business number 750,000, and the horses over 1,000,000. There are over 12,000,000 of horses, all told. The cows and horses consume annually 30,000,000 tons of hay and nearly 90,000,000 bushels of corn meal, about the same amount of oatmeal, 275,000,000 bushels of oats, 2,000,000 bushels of bran, and 30,000,000 bushels of corn, to say nothing of the brewery grains, sprouts, and other questionable feed of various kinds that are used to a great extent. It costs $450,000,000 to feed these cows and horses. The average price paid to the laborer necessary in the dairy business is probably $20 per month, amounting to $180,000,000 a year. The average cow yields about 450 gallons of milk a year, which gives a total product of 6,750,000,000. Twelve cents a gallon is a fair price to estimate the value of the milk, at a total return to the dairy farmers of $810,000,000, if they sold all their milk as milk. But fifty per cent. of the milk is made into cheese and butter. It takes 27 pounds of milk to make 1 pound of butter, and about 10 pounds to make 1 pound of cheese. There is the same amount of nutrition albuminoids in 8½ pounds of milk that there is in 1 pound of beef. A fat steer furnishes fifty per cent. of boneless beef, but it would require 24,000,000 steers, weighing 1,500 pounds each, to produce the same amount of nutrition as the annual milk product does.

The Dangers of Exalgine.—It does not look as if exalgine, the proposed substitute for antipyrine as an analgesic, is likely to beat the latter out of the field all at once. Almost weekly we hear of a case of untoward symptoms following its administration, and nothing renders the practitioner more diffident than the knowledge of such occasional results. It must, however, in justice be borne in mind that both antipyrine and cocaine, to say nothing of the numerous other drugs of the aromatic series of recent introduction, have a good deal of this sort of thing to answer for, and they are even credited with having determined a fatal issue in quite a number of instances, a delinquency that cannot so far be laid at the door of exalgine. By and by, when we understand a little better the *modus operandi* of antipyretic and analgesic remedies, we may be enabled to eliminate some of the risks that at present seem inseparable from their use. It is not improbable that samples of exalgine of uncertain composition are in the market, the use of which may account for the disasters which have been recorded.—*Hospital Gazette.*

The Proper Place for Foreign Study.—The *Medical News* of August 30, 1890, says that human beings are so much like sheep in their habit of following where their predecessors have led that it seems almost useless to attempt to divert their course from the clinics of Vienna or Berlin to those of London, Liverpool, or Edinburgh. Yet anyone who has studied both on the continent of Europe and in England must have been impressed with a number of advantages possessed by English study over those offered in still more foreign lands. The advantage of the mother-tongue is inestimable. Very few Americans who do not possess German blood know enough of the German language to understand the terms used by a rapid lecturer in the Fatherland, and, if they do not, they lose that which they chiefly desire, namely, the minute points of the subject before them. The average American going to one of the continental clinics receives most of his instruction from docents, or other instructors of a comparatively low grade, simply because he is one of hundreds who throng, not only around the chief, but overflow to the subordinates; while in England, notably in London, the number of eminent men is so great, and the percentage of foreign students so small, that each and everyone can sit at the feet of the teacher whose writings are known everywhere in the civilized world. While the student in Berlin or Vienna becomes imbued with the views of the single individual governing a given course, in London he may go from hospital to hospital and obtain different views, and in consequence become a man of broader ideas and greater resource.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 15.
Whole No. 1040.

NEW YORK, OCTOBER 11, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

REMOVAL OF A LARGE EXOSTOSIS OF THE ORBIT, WITH PRESERVATION OF THE EYE.[1]

BY THOMAS R. POOLEY, M.D.,

SURGEON-IN-CHIEF OF THE NEW AMSTERDAM EYE AND EAR HOSPITAL, PROFESSOR OF OPHTHALMOLOGY IN THE NEW YORK POLYCLINIC.

IN offering to the Society a history of the following case of exostosis of the orbit, with an account of the operation for its removal, I desire to do so without entering into detail of the literature of the subject, which has quite recently been fully done by Dr. Joseph A. Andrews, of New York, in an admirable paper in the MEDICAL RECORD, September 3, 1887. Very few such cases are on record, and those in which successful operations have been made still fewer.

The patient, a healthy young Irish girl, twenty three years of age, first consulted me on August 21, 1888, on account of the condition of her right eye. Two years ago she first began to notice protrusion of the eyeball, and to be troubled with lachrymation. There was, however, no pain nor other annoying symptom, and she was led to seek advice mainly on account of the increasing deformity. The inner part of the upper lid was slightly prominent and pushed downward, conjunctiva and eyeball normal. There was a moderate degree of exophthalmos forward, outward, and slightly upward, with impairment of the movement of the eye inward.

Upon palpation a tumor could be felt in the upper and inner angle of the orbit, which was of bony hardness and painful upon pressure; the growth also could be felt beyond the inner wall, extending to the floor of the orbit. There was no abnormal appearance of the fundus, and with — 1 D. c. axis 180° vision was normal. There was no diplopia. The diagnosis of orbital exostosis was made. The nature of the growth and the danger attendant upon its removal was explained to her relatives. They consented that an exploratory incision should be made to determine the exact size, seat, and nature of the tumor, and the consequent dangers of its removal. This was accordingly done, but upon fully explaining the state of affairs the friends declined further operation. The incision confirmed the previous diagnosis and revealed a large ivory-hard exostosis attached to the upper, inner, and lower walls of the orbit by a broad base, firm and immovable. The patient was not seen again until Thursday, February 6, 1890, when she came to the clinic of the New Amsterdam Eye and Ear Hospital. Her symptoms were now very alarming, and she was desirous of having something done for her relief, but again deferred operation until she could consult someone else. There was now intense swelling, redness, and tenderness of the lids, with great chemosis of the ocular conjunctiva, especially below, where the swollen conjunctiva protruded beyond the palpebral fissure. The exophthalmos, too, had greatly increased and the eyeball was pushed forward, outward, and somewhat upward, and the movements of the eye greatly restricted in every direction, especially inward and downward. There was well-pronounced optic neuritis V. = $\frac{xx}{200}$.

On the night of the day following I was called to see her at her house, on account of the appearance of urgent symptoms, and now found her suffering from great pain in and around the orbit, with increased pulse, rise of temperature, nausea, and when she fell asleep, mild delirium. The exophthalmos and swelling of the lids had greatly increased, even since I last saw her, and I urged immediate operation, being under the impression that suppuration of the orbital tissue, or some acute inflammatory complication, had set in. The next morning she was admitted to the New Amsterdam Eye and Ear Hospital, and at 3 P.M. the same day I began the operation for the removal of the tumor, with the assistance of Drs. Ward, Roberts, and E. A. Kirkpatrick, the house-surgeon. An incision was begun along the upper margin of the orbit, near the middle of the superciliary ridge, and carried to the inner margin, care being taken to keep on the bone. It was found necessary to extend the incision downward to the floor of the orbit, beyond the margin of that part of the tumor which could be felt in this location. When completed, the incision was curvilinear, 75 mm. in length, and embraced about two-thirds of the orbital circumference. Upon cutting through the tense periosteum the dense, yellowish-white bone characteristic of ivory exostosis was seen. There was no escape of pus or serum. The place of attachment of the tumor was now clearly exposed, and I began by the use of chisels to attempt its detachment from the upper and inner wall. To my great delight I found that a groove could readily be made in the bone with a chisel, without even using the mallet, but by merely using the ball of my hand as such, and it was not necessary throughout the entire operation to use it. I kept the chisel close to the walls of the orbit, cutting toward the bone, and, after a somewhat tedious endeavor, found that the broad base of attachment was nearly severed, and that the tumor, when seized by bone-forceps, was freely movable in the orbit. I now with the chisel cut the only remaining fragments which held it, but found it a very difficult matter to dislodge the now dissevered tumor from the orbit. This was, however, at last accomplished by turning the tumor so that its long axis, which corresponded with the vertical meridian, was horizontal; and now, by putting an elevator under it, it could be pried out. Care was taken throughout the operation not to divide any of the ocular muscles, nor to injure the eye, which during the operation was kept drawn out of the way by a spatula. The orbital walls from which the tumor had been removed were rendered smooth by the use of the chisel and the periosteum-knife. No attempt, however, was made to draw the periosteum over it. The wound was now united by six catgut sutures, except in the most dependent part, where an antiseptic rubber drainage-tube was inserted into the orbit. The usual antiseptic precautions were adhered to throughout the operation. The operation, which was made under ether, lasted about one hour and a quarter, was attended by considerable hemorrhage, and was well borne by the patient, who, upon coming from under the influence of the ether, saw well. There was no diplopia, and only some bloody discharge through the nose and mouth. One-tenth grain of morphine was given hypodermically. Antiseptic iodoform gauze, perforated by a number of holes, smeared with carbolized vaseline, a layer of borated cotton, and firm compressive bandage applied, and patient put to bed. At 11 P.M. the patient had not slept, and complained of slight pain in the orbit, radiating superiorly from it; pulse, 100. Gave ten minims of Majendie by the mouth.

Sunday, 9 A.M. — Pulse, 90; temperature, 98⅘° F. Wound dressed and found healed by primary adhesion

[1] Read before the American Ophthalmological Society, July 16, 1890.

throughout its entirety, except at the drainage-tube, lids swollen, cornea clear, chemosis somewhat lessened, vision good, some nausea, otherwise comfortable. Slept a few hours during the day. Pulse, at evening, 90; temperature, 100½° F.

Monday, 10th.—Did not sleep well; wound about the same. Pulse, 84; temperature, 98½° F. The patient cheerful and free from pain. Discharge takes place freely through the nose and mouth, but little through the tube.

Wednesday, 12th.—No. 3 stitch removed, as suppurative appearances were making themselves apparent in its track.

Thursday, 13th.—Had a restless night; pulse, 100, temperature 100⅘° F.; tenderness and swelling below the right ear due to enlarged chain of lymphatics; stitch No. 2 and the drainage-tube removed, which was not replaced, as all drainage seemed to take place through the nose and mouth. Considerable thin discharge oozed through the wound at the site of No. 2 stitch, especially on pressure. In the evening pulse had fallen to 84, and temperature to 99° F.

Friday, 14th.—Patient slept well, pulse and temperature good, considerable discharge, but swelling going down and chemosis disappearing.

Saturday, 15th. — Pulse, 72; temperature normal, exophthalmos decreasing.

Sunday, 16th.—Stitches Nos. 1 and 3 removed, or at least what remained of them, as they had been partially absorbed and suppuration was appearing in stitch-canals, a natural wrinkle beginning to appear in the upper lid.

Monday, 17th.—Remaining stitches removed, considerable headache of the nature of migraine, which disappeared by evening after a dose of antipyrine.

Tuesday, 18th, Wednesday, 19th, and Thursday, 20th.—A gradual improvement without any untoward symptoms. Little ulcers have formed at the site of the stitches, and there is considerable thin, pus-like discharge through the opening at stitch No. 1. Chemosis still present, but in less degree. Red precipitate ointment spread on iodoform gauze, to be renewed three times a day, was applied to heal the little ulcers.

Saturday, 22d.—Headache again, otherwise doing well; sleeps well and has a good appetite.

Sunday, 23d.—Five grains of quinine were given to ward off the headache, which usually comes on at the same time in the afternoon, and had the effect of greatly relieving this symptom.

Monday, 24th.—Sixteenth day after the operation. Exophthalmos nearly, and chemosis entirely, gone; ulcers healed; no discharge from the wound, which is now entirely healed; eyelids beginning to assume a natural appearance; still some slight discharge through the nose; temperature normal and pulse 86; bandage left off for the first time; vision equals $\frac{20}{200}$ with $-\frac{1}{30}$ c. axis, 180°, $\frac{20}{100}$, optic neuritis almost disappeared.

On 26th.—Still improving, homonymous diplopia, which has existed in the lower part of the field of fixation since the 18th, is daily decreasing. This appears to be due to a mechanical displacement of the eyeball, since the double images do not correspond to any of the known forms of paresis of the ocular muscles, and is daily improving.

The following diagrams, kindly made for me by Dr. E. A. Kirkpatrick (Figs. 1 to 3), show the situation of the double images and a gradual diminution in the double-vision area, while Fig. 4 shows the situation of the double images in the diplopia, caused by paresis of the superior oblique, the only muscle which would have been likely to be injured during the operation.

On 28th.—Three weeks after admission, patient was discharged from the hospital. There was some conjunctival injection and swelling of lower lid, slight discharge through the nose, incision firmly healed, scar not very conspicuous, diplopia as shown in the diagrams.

March 3d.—The patient came to my office; vision $\frac{20}{40}$ without any glass, which no longer improved the sight; diplopia still exists, but does not annoy her; no longer any discharge through the nose or mouth, nor any appearance of neuritis, except that the disk is still somewhat red;

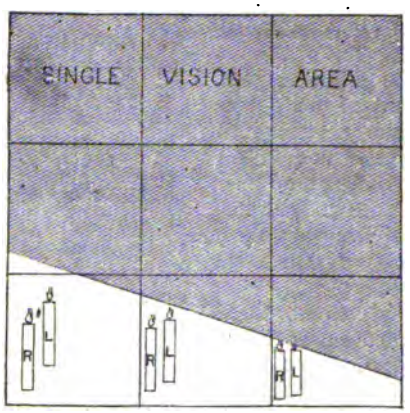

FIG. 3.

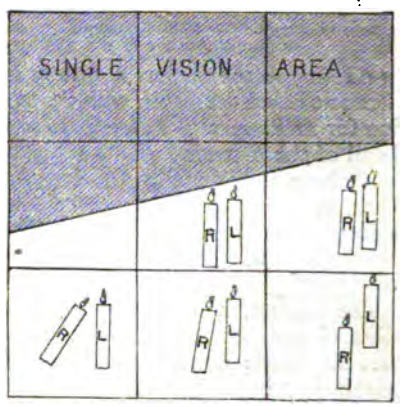

FIG. 4.

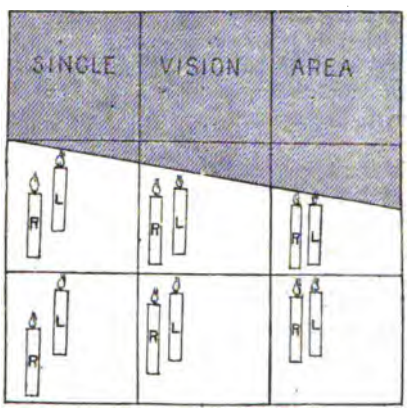

FIG. 1.

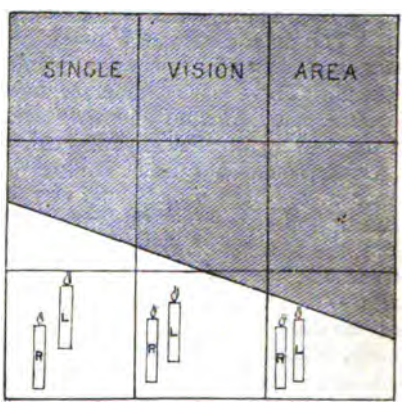

FIG. 2.

no exophthalmos; free movements of the eyeballs in every direction; some lachrymation.

The last examination, made in my office April 29th, one day before the patient sailed for Europe, showed the following: V. = $\frac{20}{20}$ without any glasses; diplopia still exists, but the area of double images less and inconstant. (See Fig. 3.) Complains of rather frequent headaches, all evidences of neuritis gone, disk normal in appearance, but little deformity, except slight puckering of the scar where the stitches were; still some slight œdema of the lower lids and lachrymation. Since then I have had a letter from the patient, who says: "The scar is scarcely perceptible, the double images have almost worn away, and the only annoying symptom remaining is slight watering of the eye."

The tumor removed is covered with periosteum, except where it was attached, and apparently consists of compact bone throughout, except at its point of attachment, which is soft and cancellated. It is of an irregular oval, with a projecting portion which extended into the orbit, about the size of a horse-chestnut, covered with irregular nodules and traversed by numerous sulci. It weighs twenty-six grammes. (See Figs. 1 to 6.)

Its longest antero-posterior diameter (obliquely forward and a little downward) measures 39 mm. Its greatest

lateral diameter, 28 mm., and its vertical diameter, 30 mm. The base of attachment of the tumor, which resembles an irregular oval, was to the orbital walls, and the points of the attachment were, respectively, the os planum of the ethmoid, the frontal and lachrymal bones, and probably a part of the superior maxillary. Its base of attachment measures antero-posteriorly (slightly obliquely upward and outward), 27 mm. Anteriorly (obliquely downward), 24 mm. In its longest diameter, which is nearly vertical (slightly inclining backward), 30 mm. The shortest diameter of the attachment, in what may be said to constitute an irregular circle, measures 20 mm.

Fig. 5.—Superior.

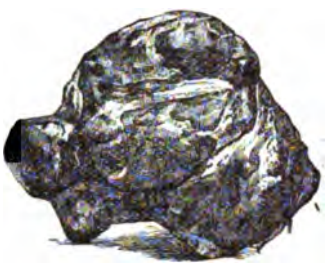

Fig. 6.—Inferior.

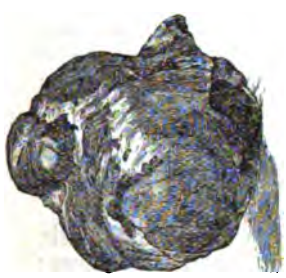

Fig. 3.—Anterior.

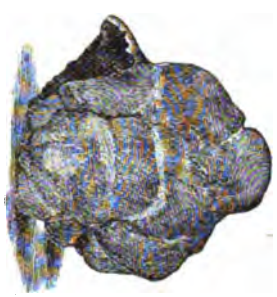

Fig. 4.—Posterior (orbital).

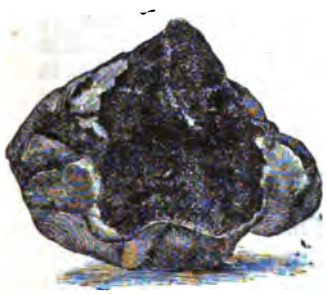

Fig. 1.—Nasal.

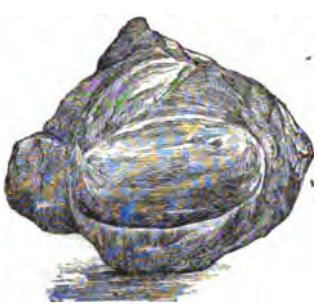

Fig. 2.—Temporal.

FIGS. 1 to 6.—Surfaces of the Tumor. (Natural size.)

Whether the tumor originated in the ethmoidal cells, or was of purely orbital origin, it is difficult to say. The whole of the tumor lay in the orbit. The patient had never complained of obstruction of the nose, and no portion of the growth was extra-orbital; hence, while the point of origin of the tumor may have been in the ethmoidal cells, the entire development and extension was into the orbit. The rough surface of attachment as shown in the specimen would seem, too, to indicate its orbital origin, and does not show any extension into the adjacent pneumatic cavities. In regard to the operative procedure, I may briefly mention what seems to me to be the more important features, and first of all is the comparative ease with which the operation may be accomplished when the exostosis projects into the orbit only, and does not invade other adjacent cavities. Although, as shown by Knapp's [1] and Andrews's [2] successful cases, even here the obstacles to a successful operation are not insurmountable; but the method suggested by Knapp, of the enucleation of these tumors from their periosteal capsule, does not seem to me to have been indicated in this case. The feature in my case which seems to be of the greatest interest, and which no doubt added to the comparative ease of the operation, was the occurrence of the acute symptoms, which were no doubt due to an acute ostitis in the site of the attachment of the tumor, thus causing this part of the growth to become comparatively soft, and so to readily yield to the attacks of the chisel, and thus to do away with any necessity for the use of the mallet. To this rather than to any cerebral pressure caused by the impact of the tumor on the orbital roof, and thence on the brain, may be attributed the constitutional symptoms. In regard to the technique of the operation: The instruments used were small hand-chisels of different construction, some grooved, others straight. Spatulas and elevators. The latter were especially useful in prying the impacted tumor from the orbit when its basis had been severed; in doing which it became necessary to turn the tumor, so that its long axis corresponded with the palpebral fissure, and then to pry it out of the orbit; which proved the most difficult part of the operation. I was at times greatly aided during the operation by a small portable electric light, devised by Dr. Milton Josiah Roberts, which was so arranged as to throw a bright light into the depths of the orbit. The recovery from the operation was as favorable as under the circumstances could be expected. There was the reaction, both constitutional and local, which might naturally be expected after such a protracted operation, and although the wound had first united by primary adhesion, some little suppuration, most marked in the course of the catgut sutures, which certainly in this case seemed to be less innocuous than I have seen in the use of fine silk, occurred. The drainage-tubes seemed to have been of little if any use, for the natural drainage which took place through the nose and throat did away with any necessity for it, nor do I think that in undertaking another operation of this kind I would use one at all. The rapid disappearance of the optic neuritis, the improvement of vision, and the return of the refraction to an emmetropic condition, are all of great interest. While it is easy to account for the occurrence of neuritis, and consequent diminution of vision, I am at a loss to account for the occurrence of the astigmatism and its subsequent complete disappearance.

[1] Archives of Ophthalmology, vol. ix., page 464 et seq.
[2] MEDICAL RECORD, September 3, 1887.

ON THE NON-EXISTENCE OF RACHITIS IN JAPAN.

BY ALBERT S. ASHMEAD, M.D.,

NEW YORK.

ALL foreign observers agree in stating that the disease rachitis is exceedingly rare, if not wholly unknown, in the Japanese islands. A majority of them claim that it is absent. During a nineteen months' children's clinical service in Tokio, I was not privileged to meet with a single case of the disease, none presenting itself for treatment. Through my intercourse with native colleagues I found out that no such disease had ever been brought to their notice.

If rachitis, as the disease is called with us, is but comparatively rare in Japan, the reason for it is extremely interesting, in connection with the fact of the syphilitic and tuberculous infection of its people.

I shall quote from eminent foreign authorities respecting the childhood of the Japanese in some of its bearings upon, and relations to, my subject. With Dr. Simmons, I shall first unite in saying that "Japan is the paradise of children." I do not think there can be found in the world a happier babyland than this. Everything seems to have been planned especially for their welfare, and what is more, that Japanese childhood is unbounded—never ends. Old age flies kites, plays with tops and marbles, and the laws make merry playmates out of men. There is nothing in the material world which surrounds Japanese childhood to which anything like what we might call *moral* rachitis could ever be traced back in this land.

Remy, in his "Notes Médicales sur le Japan," [1] in

[1] Archives générales de Médecine, vols. i. and ii. Paris, 1883.

speaking of this relation says as follows: "Among the details of Japanese hygiene I have been especially struck by the manner in which children are fed and brought up. They are suckled by the mother until the age of five and six years. They run after their mothers asking for the teat in a correct language. The manner in which the age of the children is reckoned may occasion an error of more than a year. However, during a long period the child depends entirely on its mother. Artificial lactation is unknown. The mother considers it a strict duty to suckle her babies." "It is with difficulty that they can be prevented when they are sick."[1] The mother's milk, however, is not the only food of the child till the age of five or six years. In the second year special aliments are added—boiled rice, river fish, sweet potatoes, cakes, boiled eggs, with the national sauce the "shoyu." But the child invariably begins by being fed, for a more or less protracted period, with the mother's milk.

The Japanese women are equal to this prolonged lactation, thanks to a very remarkable exuberance of lacteous production. The Japanese women are small; their breasts before pregnancy are not particularly developed, but after that period they are capable of producing incredible quantities of milk. The secretion is so active that the milk spurts from the teats, and pathologic galactorrhœæ are not rarely observed. There seem to have existed specialists for this affection. I saw at the clinic of the hospital of Kaga Yashiki a young woman whose breast gave six litres of milk per day. Dr. Baelz had that same milk analyzed. It was found to contain a quantity of milk-sugar and of albumin superior to the average, and its abundance had produced a state of exhaustion for which the patient had to be treated. The Japanese mothers take no other food than the national dishes. Much rice, herbaceous and farinaceous vegetables, fish, a great deal of tea, and sundry popular stuffs. In Japanese houses they make tea forty or fifty times in a day. This prolonged lactation weakens the mother, who looses early the freshness of youth. Perhaps it may account also for the small average of fecundity given by the statistics, the women remaining fifteen and seventeen months without menstruation. According to Dr. Baelz's statements large families are scarce, they do not go beyond three or four children. I am speaking of the children of only one woman, for as custom allows the husband to add concubines to his household, the number of scions may thus increase proportionally. Besides the prolonged lactation, let us note, as a cause of the weakness of average fecundity, abortion.

In spite of the strain on them the mothers submit to prolonged lactation with laudable maternal devotion. As to the children, such a diet is productive, as a rule, of a flourishing state of health. They are stout and plump. However, it would not be advisable to found one's judgment solely on the countenance of the Japanese child. That is always rounder than shown by the European type, and preserves a puffed appearance of health even when the rest of the body has become emaciated. The influence of such an alimentation, however, does not preserve the child from all diseases. Yet it is easy to understand that with such a diet it need not fear that gradual dwindling away through insufficiency or bad quality of the aliments which is called athrepsy. It escapes the gastro-intestinal affections which make so many victims in our country. Nevertheless there is a great mortality. I was not able to obtain exact statistics, to compare with our own figures of mortality, but I believe the Japanese proportion to be smaller, because it is not easy to find for a wet-nurse a woman who has lost her child. When children die it is generally from pulmonary and cephalic affections. Hydrocephaly[2] in all it forms is very frequent; some children are born with sutures already separated and with a conformation of the head indicating internal exudations. With most of them the affection takes place only after birth. As autopsies are seldom practised in Japan, it is difficult to find the real cause of the affection. Is it the manifestation of an hereditary tuberculosis? Is it the result of imprudent practices, of the absence of all protection to the head of the new-born against a burning sun? I shall have to return to this subject by and by. It seems to me that if the custom of lactation saves a number of children, on the other hand, there are other habits which expose them to other dangers. Every nation has its faults as well as its good points.

"There is, however, a result of the lactation which I would above all clearly represent. *The rachitic does not exist in Japan. I never met him, neither among the children nor among the adults; neither in city nor in country, nor in hospitals. The physicians, native, and foreign, whom I consulted, are aware of no single instance.*[1] It is, so to speak, an experiment made on a whole nation, and the conclusion from it is this: Rachitism may be avoided by feeding the child with the maternal milk. It might be objected that this absence of rachitism is due to the law of natural selection; that all weak children died at a tender age. But if this were true in Japan, why should it not be equally so in Europe, and why should not our rachitics disappear also? It may be said that hereditary syphilis is the cause of rachitism. But this disease exists in Japan as well as elsewhere, and yet it does not make rachitics. The difference of alimentation, the exclusive lactation of the young Japanese is, in my opinion, the cause of this difference between the infantile pathology of this country and all other countries, the bad hygienic conditions are merely accessories."

Dr. Wernich,[2] in his chapter on Pregnancy, Childbirth, and Confinement of the Japanese,[3] states as follows: "The Japanese girls and women conceive uncommonly easily, as experience shows. Besides, they are capacitated for an especially fertile work of propagation by their vivacious, though moderated sensuality—which does not, as a rule, spend itself in a short time, as it does in men—the favorable build of their bodies, and the long duration of the child bearing period. It is assumed that the power of conception and propagation stops only toward the fiftieth year, which may be a little exaggerated but is certainly not very far from the truth. We shall treat of the diminution of the power of conception by the long suckling when we speak of the latter in the next chapter. Those cautious attentions by which the Japanese women are guarded in every form of life, and have come to be regarded as duties, are increased twofold during pregnancy. A multitude of ceremonies and rules of conduct, which at the first glance seem to be sheer superstition, take, when more closely considered, the shape of dictates of a quite reasonable puerperal dietetic. The woman is forbidden to eat certain dishes difficult of digestion—mustard, salad, salad-seed, ground fresh turnips with vinegar, salmon, whale, and some crustaceæ. Excessive sexual intercourse during pregnancy is also warned against, 'because it may result in phthisis during confinement.' Some of these prescriptions, it is true, border on the burlesque, and bear a grossly unphysiological stamp. Thus, the pregnant woman ought always to lie with bent legs, even during sleep; lest the fœtus put his legs into those of the mother, as in a pair of breeches, the legs of the sleeping woman were tied together with bands, in order to keep them in that bent position. For the ascertainment of the pregnancy the cessation of the menstruation was considered the surest symptom, and

[1] Wernich: Geographische Medical Studien. Reise um die Erde. Berlin, 1878. (Journey Around the World.)

[2] Wernich: Ueber einige Formen nervöser Störungen bei Japaner, Mittlungen der Deutschen Gesellschaft für Natur und Völkerkunde Ost-Asiens, Cap. 10, 1876. (About some Forms of Nervous Disorders among the Japanese. Communications of the German Society for Natural History and Ethnography of Eastern Asia.)

[1] The italics are mine.—A. S. A.

[2] Professor of Pathology, University of Berlin, and Lecturer on Gynecology Medico-Surgical Academy, Tokio, Japan.

[3] Geographische Medical Studien. Reise um die Erde. Berlin, 1878. (Journey Around the World.)

this event was made the starting-point for the chronology of the pregnant state. With the official division of the year into lunar months the calculation was simple, in so far as from the first absence of the menstruation ten lunar months were counted as required by the whole course. Strange to say, the women were puzzled when the last menstruation reached from the closing days of one (calendar) month into the first of the next Zekimatangi, a technical expression especially invented for that case. The calculation was then incorrect, as they counted the commenced month as a full one. Now the women count by days—two hundred and eighty days—but they admit that they blunder a great deal."

A pregnant person is considered everywhere as an object of delicate regard, a being worthy, that is, in need of every assistance. It was this feeling which made the building of a new lying-in asylum a useless expense, while otherwise it was proper to be quite enthusiastic about founding hospitals on the European plan, and to spend much money for that purpose. The higher magistrates, with whom this point was discussed, said: "The building for the lying-in asylum would be easily enough obtained, but they were at a loss to see who was to enter it." No class, no condition, no combination could be imagined in which a Japanese woman approaching childbirth would not find the most tender nursing either in her own family or in that of the father of her child. The poorer she is, the easier her modest claims to a quiet little place for her heavy hour can be satisfied. The smallest hut and the janitor's house of every palace would receive at once any woman suddenly seized with labor, even if she was a total stranger. To these arguments could only be opposed what is to be said in favor of our own lying-in asylum. I insisted, in these negotiations, on the fact that confinements always carry off a smaller percentage of victims in places where competent professional aid was ready at hand. I tried to show that this professional skill could only be taught and learned on the cases themselves; that, finally, in order to be able to communicate these traditions to pupils well and thoroughly, such an institution was the proper place. The Japanese protected themselves with half-true arguments and many specious ones. Those pathological conditions, they said, occurred seldom in Japan; *there was no osteomalacie in the country, very rachitic persons got no husbands, the children were generally small and found their way easily into the world.*[1]

In the higher classes they admitted there occurred very frequently difficult confinements, but the difficulties were then of so peculiar a nature that the European physicians themselves would have been puzzled by them (this observation referred evidently to the difficulties in the shape of the pelvis). As to the instruction, they said the bulk of the pupils might receive the necessary demonstration on the model. Only a few of them would become good obstetricians anyhow, and these would easily find opportunities for further improvement in their private practice. After some battling I gave up the hope to see a lying-in asylum of higher degree added to the other hospitals approaching completion. I should not have thrown up the sponge so easily if some secret considerations had not stopped it, and they regarded puerperal fever. The more I investigated the more I found that puerperal fever, in the sense of the English, French, and German literature of the first sixty years of this century, *has never existed* in Japan. I may now add, in agreement with most impartial obstetricians, *because there never was a lying-in asylum in the country*, and even the want of such an institution or of a surrogate, according to the popular views just mentioned, was never felt. Every woman, even the poorest, is delivered in solitude, in the smallest, perhaps unhealthiest room, but nursed by a *nurse who cares only for her*, not threatened by the frightful poison which unclean utensils, unclean instruments might communicate to her; still less by that which, after a slow accumulation in a room which has been saturated for months by secretions suspended in it in the shape of dust, suddenly displays its deleterious effect. Nor is she exposed to the most disgusting, the most murderous of all, the cadaveric poison which sticks to the unclean fingers and clothes of the clinical and medical students, running from the operating-table and the microscope to the childbed, and transplanting the infectious matter with cruel certainty on the swollen, half-wounded, mucous membranes of the vagina and womb. *I consider the fact that no endemic or infectious puerperal fever has appeared in Japan up to this day as irrefragably proved.*[1]

In the first place there exists, in no writing, no tradition, the slightest allusion to any knowledge of such disease. Taking into account the care with which the Japanese writers have treated every circumstance relating to the birth of children, it would be strange that a murderous disease, arising during confinement and spreading over a ward or over a whole city, should have escaped them. As already stated in the note, they know pretty much all confinement diseases which interest us, besides the puerperal fever, but the latter is unknown to them. It is not a fallacy if I add further, to establish the fact of the non-existence of puerperal fever in Japan, the certain absence of those factors which more and more are recognized as active in its production. There are no autopsies, or they occur seldom, and there are no lying-in asylums. From a medical fact so surely established cruel arguments against the lying in asylum and against the method of our medical teaching might be deduced. However, the condemnatory sentence against the frivolous promiscousness of pathological obstetrics has already been pronounced under the leading of the immortal Semmelweiss, and the voices which, on account of the sad experiences made every day in the palaces of confinement, clamor more and more for a change in this branch of study.

What has been pointed out formerly by Stolz, and of late by v. Grünwald, in regard to the favorable experiences made in the *small* Petersburg asylum, I hope to confirm strongly by the facts mentioned above. If the *solitary* puerperal woman cannot be made use of more extensively for the instruction of students than is done now; if we are sure to limit the natural mortality by timely and manually excellent operations in the lying-in asylums, let these houses be established at least on as small a scale as possible, and banish the medical student occupied with anatomical researches of any kind in the most peremptory way from the rooms of these small asylums.

The Japanese female pelvis is broad and very spacious, hence labor is naturally easy. Wernich found in his gynecological studies,[2] that in the eleven obstetrical cases which he observed from beginning to end, the cause of a difference in the course was *never* pathological deformation of the pelvis.

The oscillations in the relation of the conjugata to the approximately equal values of the circumference (the latter *always* inferior to the European standard, owing to the Javanese-Malay difference in stature) related to the general build and size of the individuals. Dr. Dowitz put before the East Asiatic Society tables and cuts of pelvis orifices in which crista deviations of 28.1, 26.9, 26.6, with conjugata values (conjugata vera) of 10.1, 9.4, and 9.3 are opposed to other pelves with 25.8, 23.7, and 24.0. Distantia crist. oss. il. and respective conjugata of 10.4, 10.8, and 10.9. The broad pelvis he compared with the European, the deeper one with that of the Malay.

Deformations of the female pelvis in Japan are exceedingly rare; pelvic deviations are usually natural and racial, *the rachitic pelvis is unknown.* Remy, in a paper entitled "Des Japonnais," in speaking of the modifications of the body due to special habit says, "The way of sitting down is quite peculiar; the Japanese kneels down, turns the tips of the feet inside, and rests the seat on the heels. The inferior extremity of the tibia, the articulation

[1] The italics are mine.—A. S. A.

[1] The italics are mine.—A. S. A.

[2] Medico-Surgical Academy, Tokio, 1874.

of the tarsus, the external border of the foot support directly the weight of the body, the knees participate indirectly in it. The ligaments of the knee, and especially those of the tarsus, are stretched, the head of the astragalus is prominent.

The habit of carrying the foot tip in the adduction in order to sit down, continues even in walking, especially with women, but fashion has something to do with it also; it is the *ne plus ultra* of good form. Some deformations observable in a small number of Japanese, and which consist in an excessive divergence of the knees and a kind of stunted development of the arms, have been explained by this manner of sitting. The small length of the arm of the Japanese, compared with the rest of the body, has been pointed out by Mme. Chaplin-Ayrton[1] and she explains it by the habit to take the shoulder for a point of support to lift burdens and by the habit of crouching.

The pillow is a block of wood 10 ctm. high, 5 ctm. broad, covered with a cushion. It was necessitated by the hair-dressing, which was only renewed every three days, and was put on the neck. It causes a very uncomfortable distention of the neck. Some artists, seeing that the neck of the Japanese, especially the women, is always very slender and graceful, have ventured to seek the cause of it in the use of that instrument."

These deformations are national, and are due to habits alone. I think that those observers who claim to have seen cases of rachitis in Japan have confounded some of these deviations. Many of them, like the bow leg or "sabre-leg" of the Japanese, come from their manner of sitting on the floor. In childhood the soft bones readily yield and observe new directions. Or like the pressed ribs and prominent sternum of the babies, are induced by their mode of carriage on the backs of older children, the retaining band which holds the child on—a figure-of-eight bandage about the ribs—compresses them. None of these national deformities are allied *in any manner* with rachitism.

"According to twenty-six observations made by Dr. Scheube and by M. Tagachi, a Japanese anatomist,[2] the length of the intestine is greater in Japanese than in Europeans. If we compare the length of the body with that of the intestine we come to astonishing results: To 100 ctm. of stature in the European correspond 506 ctm. of intestine; to 100 ctm. of stature in the Japanese correspond 607 ctm. of intestine. It is an augmentation of a fifth."

From time immemorial the Japanese have been fishers, and hunters, and tillers of the soil. Their diet has consisted largely of fish and other products of the sea, the crustaceæ, and iodized seaweed, of which they have always eaten abundantly. As a people they have most beautiful and well-formed teeth. It is the exception in Japan to find youth associated with decay of teeth. Surely the Japanese alimentation has operated to secure to the race sound teeth and bone, at least. Fish is supposed to be rich in phosphorus or its surrogates, and is recommended to us as a brain-food; but never, that I know of, has it been suggested as a remedy—a bone-food—in osteomalacia.

The Japanese have always eaten plentifully of fats and oils of fishes, the blubber of the whale, the eel, and loach especially; and these have contributed their measure in procuring for the nation such an immunity, and endowing it with a greater degree of sound bone formation. The universal use of the food under notice, from the time of ancient Buddhist flesh prohibition, but especially the consumption of fish by the lactating women, together with the fish given to the children after their first year, as supplement, which at that time is allowed them by Japanese tradition, are, in my opinion, main causes of the non-existence of rachitis in Japan.

In the order of their sequence may be cited some additional factors.

1. Absence of deformed pelves in the women of Japan, and heredity thereof, hence easier gestation and labor.

2. Exceedingly gentle care and nursing of the pregnant and parturient women.

3. National possession of finer teeth, consequently more perfect mastication and emulsion of aliment.

4. Increased length of intestinal absorption-surface, hence freer chylification.

Various writers strongly advocate the use of phosphorus, with cod-liver oil, to eradicate rachitic tendencies.

Professor Jacobi, in a note addressed to me, advises the oleum phosphoratum of the United States Pharmacopœia to be given in the oil. May I suggest it behooves us to learn the lesson which Japan thus teaches us, adding to this sound treatment by the phosphorized cod-liver oil a general and more constant lactation, checking that prevailing tendency to wean prematurely, and adopting a fish diet for both mother and child.

4 King Street.

[1] Thesis of Paris, 1878.

[2] Mitteilungen der Deutsch. Gesellschaft f. Natur und Völkerkunde Ost-Asiens, 1882, 27 caher.

SOME NOTES BEARING ON THE ADMINISTRATION OF IRON.

By JOHN AULDE, M.D.,

PHILADELPHIA, PA.

Although iron is highly esteemed as a medicament, and is largely used for its tonic effect upon the system, so frequently does it occur that the patient objects, owing to some idiosyncrasy or fancy, that we cannot regard it wholly as an ideal hæmatinic. No apology, therefore, is required in offering to the profession a comparatively recent preparation, which is free from some of the objections that have been urged against many of the iron preparations now in use. In order to make the reasons which I have to offer clear and distinct to the casual reader, I have deemed it wise to consider briefly some points intimately connected with the pharmacology of the drug. From this preliminary study we shall be in a measure prepared to estimate how nearly the new product comes to meeting the defects with which we have had to contend so long, and at the same time it may possibly lead to a more intelligent use of this well-known remedy.

Besides the reduced iron, we have in general use the ferric and ferrous preparations, the latter being more mild, less astringent, and free from the objections to the ferric salts—that of coagulating albumin. Lethal doses of the ferric salts used intravenously, in experimental investigations, cause almost immediate paralysis of the central nervous system, fall of blood-pressure, and death. Although the perchloride, when thus used, causes instant death by coagulation of the blood, it does not act in this direct manner when introduced subcutaneously; the nerves are unaffected, but at the points of elimination inflammatory action is set up, *e.g.*, the kidneys, liver, and intestinal mucous membrane show more or less effect.

Absorption takes place as a peptonate or albuminate, but it is taken up so slowly that no appreciable result follows, unless, as just stated, it may be used intravenously or subcutaneously. Absorption takes place more rapidly in catarrhal conditions of the intestinal tract—a fact to be borne in mind when exhibiting large doses, which cause gastro-intestinal catarrh. Small doses do not have this effect, nor does the metal appear in the urine from their administration, such as may be observed after the ingestion of large doses. It will be inferred from the foregoing that by the exhibition of small doses of a soluble preparation of iron it will be assimilated without causing derangement of the alimentary tract, and in this way the secondary effects, *i.e.*, the deposit of the metal in the system, may be avoided.

The fact should be kept constantly in view, that metals have a poisonous action upon nerves, nerve-centres, mus-

cles, and upon all glandular structures; and as iron is a reputed hæmatinic, much harm may result from its injudicious employment, as there are evidently certain toxic effects following the long-continued use of insoluble preparations. This is a rule which applies especially to all insoluble iron preparations, and it is but reasonable to assume that, whatever harm has been done through this means, may have escaped attention, because few physicians are likely to investigate the presence of factitious diseases. Another factor which has contributed to lessen these evils, is the slow process of absorption.

The foregoing observations apply with equal force to the effects of the drug upon the circulatory apparatus. While copper is an active agent in causing contraction of the blood-vessels, iron produces slow contractions, showing that it is less irritant (stimulant) to the nervous system. This may possibly be accounted for on the hypothesis that iron is a normal constituent of the blood. Whether this effect is due to irritation (stimulation) of the vaso-motor nerves, central or peripheral, or to a direct action upon the muscular walls of the blood-vessels, is a question still in doubt. My own impression is, that through the influence of the medicament upon the nerve-cells the large doses, comparatively, arrest their function, when contraction of the muscular structures in the vessels takes place. The ferric salts, owing to their property of coagulating albumin and blood, of course produce more marked effects than the ferrous salts. Digitalis and ergot among the organic, and barium chloride among the inorganic, remedies, well-known as vascular tonics, furnish apt illustrations of this important principle.

Iron has a tendency to accumulate in the liver; small doses do not show this tendency, but they may serve to increase the functional activity of this organ, when given in a soluble, non-astringent form, by restoring cell-nutrition to the normal.

The effect of iron upon muscular structure has long been known to experimental physiologists, but I doubt if this knowledge is appreciated by many practitioners, who regard the possible benefits to be derived from the exhibition of iron preparations in proportion to the amount tolerated by the patient. Now, large doses, while they do not affect the irritability of muscular structure, lessen materially the amount of work it is capable of performing, while small doses increase the capacity of muscle for work. What is most to be desired, therefore, is a preparation not open to the objections inferred from these investigations; but owing to the necessity for consulting the palate of our patients, it is also desirable that the substance should be free from the nauseating effects which are so common to all preparations of iron. The combination I believe is to be found in that form known as levulose ferride, which was highly recommended to me several years ago by my friend, Dr. James Collins, of this city.

The preparation known as levulose ferride is one which takes the place of a well-known and popular German product, called *Eisensucker* (iron-sugar), very extensively used in domestic practice. I was led to the employment of iron-sugar on account of its palatability, fastidious patients and children making no objections to it; but this has been supplanted by levulose ferride, which in the form of tablet triturates will be taken as readily as chocolate bon-bons. It is readily soluble in an excess of water, and practically free from any ferruginous taste or styptic effect when dissolved in the mouth, and is substantially a peptonate. The method of preparing it is briefly as follows: To a certain amount of iron a measured quantity of malt-sugar (maltose) is added, and the mixture constantly stirred while exposed on a water-bath. While it possesses all the desirable qualities mentioned, the presence of metallic iron may be determined by chemical analysis, the strength of the product being about three per cent.

This preparation, it will be apparent, will act much less actively as an astringent than even the ferrous preparations; but, of course, it cannot be expected to take the place of the ferric products, which are sometimes demanded, as in the case of intestinal parasites (sarcina ventriculi and lumbricoides). On the other hand, it will be especially indicated for the relief of anæmia and chlorosis, owing to its ready absorption, lack of astringency, and its palatability. In all cases of defective nutrition, from any cause, where the ingestion of any form of medicament is a trial to the patient, this product will be kindly received. A synopsis of some of the cases in which it is indicated, together with a summary of the effects following its employment, may prove interesting to the physician.

During the early summer months, I had under observation a young mother with a six-months old child, who presented a very anæmic condition. I had seen her but once since the delivery of her child, and anticipating that she would not be able to nourish it sufficiently and maintain her health, I had cautioned her in regard to the most appropriate diet. Notwithstanding every care had been used, she was finally compelled to seek medical aid, or go to bed. All that this patient required was something for the purpose of increasing the amount of hæmoglobin, which would restore the integrity of the red corpuscles and improve the oxygen-carrying capacity of the blood. This being most readily accomplished by levulose ferride, she was ordered to take tablets of this preparation, each containing three grains, after meals. To meet the emergency, and increase the patient's strength until such time as the advantages of the iron would be apparent, small doses of strychnine (one-sixtieth grain) were administered along with the iron. Ordinarily, this class of patients, when they begin in the early summer, suffer more or less from the effects of the heat, and become regular patrons of the doctor; but this patient did not make her appearance again for about two months, when she said she thought it was about time to have a little more of the same medicine. I may mention in passing that the first medicine was sufficient only to cover the first ten days, and the patient seemed greatly disappointed that she was compelled to return.

So many children are so promptly benefited by the use of a small quantity of iron, that it is a great drawback to us that no palatable preparation has been discovered and put on the market. I have in mind a little fellow who has long been very much averse to eating meat, due, I presume, to defective digestion; but for the past few weeks, since he has been taking the levulose ferride, he seems quite content to eat meat alone, and is becoming strong and robust. Not long ago I had a visit from a lady, who brought with her a young lad, aged fourteen, who had a most forbidding cadaveric expression, and he could eat no meat. His brother, I was told, had died at about this age from Bright's disease, and this one presented all the symptoms peculiar to the brother who died. Still, with attention to diet, out-door exercise in the country, and a tablet triturate containing three grains of levulose ferride after meals, he made a prompt recovery. Although I was unable to discover any symptoms of Bright's in this instance, I was impressed with the depression due to the anæmic condition; and yet, without some readily assimilable iron preparation it would have been a tedious process to start him on the way toward recovery.

Late in the spring of the year, a gentleman aged about thirty five called on me, complaining of dyspepsia, although he had been under the treatment of another physician for overwork for the preceding four years. After regulating his diet, and adopting treatment calculated to restore the activity of the digestive apparatus, he was placed upon levulose ferride along with strychnine sulphate—three grains of the former in tablet form, and one-sixtieth grain of the latter, and did remarkably well on this combination. This product, like all other mild preparations of iron, is mostly indicated in cases of this class. and along with these may be mentioned chorea, convalescence from lingering diseases, like typhoid fever; and in all such instances, I venture to anticipate that the

results will be especially favorable where proper attention is given to dietetic measures.

The administration of the remedy may be confined to the use of the powder, which is taken dry on the tongue, dissolved in water or coffee; or it will be found more convenient in the form of tablets, each containing three or five grains. The dose for children ranges from three to ten grains, and for adults from five to thirty grains.

1910 ARCH STREET.

REPORT ON ARISTOL.[1]

BY CHARLES W. ALLEN, M.D.,

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ARISTOL is described as a thymol iodide and is a discovery of Drs. Messinger and Vortman of Aachen. It is a brownish amorphous powder, produced by the addition of a solution of iodine in iodide of potassium to an alkaline solution of thymol. From a knowledge of its composition we are at once led to hope that aristol would present the necessary qualities of an antiseptic nature to bring it into general use as a rival of, if not a substitute for, iodoform and iodol. Iodoform has such disagreeable qualities that, in genito-urinary cases especially, it has become difficult of employment in private practice. We are therefore inclined to hail with welcome almost enthusiastic any substitute which promises to act with equal efficacy and, while devoid of its disagreeable odor, possesses the good qualities of iodoform.

Aristol has been highly extolled on the other side of the Atlantic in various quarters, but till now I have seen no report of its employment here. I have therefore jotted down my impressions of the new preparation in the cases in which I have given it a trial. When I announced a paper on the subject I had expected to remain at work in the city during the summer and continue my observations. As it is, I have been absent the entire time and hence my report is necessarily incomplete.

For some time prior to using it in any strictly dermatological case I had been applying it as a dressing to such surgical wounds as would ordinarily be treated with iodoform, and had been pleased with its action, although at times it proved too stimulating. In a case of injury to the index finger with considerable loss of tissue, more than half the thickness of the finger having been cut away, I succeeded by the use of aristol in producing sufficient granulation tissue almost to fill up the gap. At one time the granulations became so exuberant that I was forced to cease its use and apply the silver stick lightly to the surface.

In a number of cases of wounds requiring sutures, and in others drawn together by adhesive strips, I have sprinkled on aristol freely, and always with good results.

For some months I have had on my office-table a ten per cent. solution in collodion and have applied it as a protective antiseptic dressing to that class of cases in which I usually apply benzoated collodion or iodoform—excoriations, lupus after burning or scraping. (After scarification I always apply mercurial plaster.)

I have dusted the pure powder upon large flat condylomata and then painted over a coating of the drug in collodion with the best results.

Iodine possessing such curative virtues in certain lesions of syphilis, I made a trial of aristol in one case of gummous ulceration of the nasal mucous membrane with perforation of the septum, blowing in the powder with an insufflator. This the patient learned to do very well for herself and the healing process seemed to be hastened more than would be accounted for by the internal medication alone. It is in this way capable of being applied in a very thin even layer and is non-irritating Dobell's solution was used to remove crusts and secretions as occasion required. Schuster, of Aachen, describes this same use of the powder in the May number of the *Therapeutische Monatshefte* The experience of others has, I think, shown that what theoretically one would be led to expect of aristol in open suppurating or moist lesions of syphilis, has been in a great measure realized in a practical way.

In the out-door department of Bellevue Hospital I treated thirteen cases of chancroid with aristol alone. Seven of them are marked on the book as either "cured" or "improved." A careful history of the cases was not kept and I do not know the subsequent history of the other six. My own impression, however, as well as that of my assistant, Dr. Crowley, was that the new remedy acted in a beneficial way and that the sores were healing as rapidly as were those subjected to the usual forms of treatment. A chancroid of the abdominal wall—the size of a half dollar, treated in my Charity Hospital service by aristol alone, healed in a most satisfactory manner after thirteen days.

Neisser, on the contrary, has found aristol to have no action in chancroids, and Brocq says its employment does not seem to exert a favorable modification of the virulence of the disease. The experience of Meyer of Berlin, however, corresponds more closely with my own, which further observation will confirm or not.

An extensive ulceration of the buttock, resulting from burning with nitric acid in which the patient had accidentally sat down, healed under applications of powder and ointment, but only after forty-eight days' stay in hospital. The result here was not as flattering as it had promised to be at the outset, the more superficial parts of the burn having cicatrized with great rapidity. In the central portion, where there had been deep sloughing, the granulations became too exuberant and flabby, and strapping after light application of silver, was resorted to for a time to flatten the surface. Several cases of psoriasis, one of eczema, one of seborrhœal eczema, and one of eczema barbæ were improved under the ointment or paint, but no especial advantage was noted over other forms of treatment. Psoriasis was not so much nor so rapidly improved as other similar cases under chrysarobin or as the parts treated by chrysarobin for comparison upon the same individual.

In a case of persistent bromide ulceration in an epileptic girl, healing was quite rapid under aristol when under permanganate, ointments, and other applications it had shown little or no improvement.

In a case of persistent chancre-like ulcer following vaccination (probably from some form of mixed infection), granulation and cicatrization were quickly established. In one case of vulvitis in a little girl the application of the powder after thorough cleansing acted well.

In syphilitic ulceration of the scalp the results were apparently very good. A deep ulcer of the dorsum pedis, resulting from a burn, healed under the use of aristol powder in a prompt and satisfactory manner.

I prescribed a fifteen grain to the ounce ointment in an extensive case of chromophytosis occupying the whole abdomen and chest. I did not see the patient again, but he was reported to me as having been cured.

In an ulcer of the leg, three-quarters of an inch in diameter, healing took place under the powder in three or four days, but another ulcer on the under surface of the great toe in the same individual was but little benefited. In one case of acne, after incising the papulo-pustules and pressing out the comedones, I used a five-per cent. ointment in vaseline with what seemed to be beneficial effect.

There were three cases of erysipelas treated by aristol (reported in my paper on erisipelas read at the same meeting). One, in an infant of three weeks, proved fatal on the third day, a result to be anticipated from any method of treatment. The other two cases, one of facial erysipelas and one of erysipelas of the extremities and trunk in a child nineteen months of age, recovered after one week's treatment respectively. In several other cases

[1] Read at the meeting of the American Dermatological Association, September 4, 1890.

aristol was applied as a powder to the wounds from which an erysipelas had originated, and with good results.

In one case of eczema rubrum and ulcer of the leg a ten per cent. and subsequently a twelve per cent. ointment acted well and the case rapidly recovered. In another case of ulcer of the foot, there was little if any improvement after treatment had been continued for some time. While the powder was being applied scarification was practised upon the calloused margins of the ulcer by the house surgeon, and was followed by an attack of erysipelas of the leg. This was regarded by the operator, Dr. Andrews, to whom I am indebted for notes of cases, as an evidence of the non-antiseptic properties of aristol. The scarification had been done, however, without the usual preliminary washing with a bichloride solution to remove all impurities. In this connection it is interesting to note that Neisser has found experimentally that aristol powder and salve possess no antibacterial qualities. Several other ulcers of the leg were treated at the hospital with indifferent results. Applications of the powder followed by a ten per cent. ointment produced in some chronic indolent ulcerations more tendency to granulation than had been noted in some time.

As to the mode of employment of aristol, being insoluble in water, and but slightly soluble in alcohol, its use in solution is restricted to preparations made with the various oils, ether, chloroform, collodion, etc., in which it dissolves readily. Being freely soluble in oils and fats, it can be made into ointments and salves with lard, lanoline, vaseline, etc., and can even be used as a paste made with starch. If free iodine were present, a reaction would take place, which I have not found to be the case either when aristol is mixed with powdered starch or made into a paste. I have, however, not made trial of such combination therapeutically. Langgaard makes the rule that aristol should never be combined with substances for which it has a chemical affinity. Among the latter are enumerated caustic alkalies and alkaline carbonates, ammonia, metallic oxides, and corrosive sublimate. In ulcers, excoriations, and open wounds I have used it mostly in the powder form, often applying a thin coating, and over this simply vaseline or a two to five per cent. aristol ointment. In some cases, however, it appears more desirable to apply the dry powder and allow a crust to form. In conclusion, I may say, as the result of my observations up to the present time, that in aristol we have an excellent application for the various ulcerations of the skin; that it possesses valuable cicatrizing and granulation-stimulating qualities, and being devoid of irritant properties, and free from disagreeable odor, can be used with advantage in that class of cases formerly treated with iodoform. It is of decided benefit, also, in a certain, though somewhat limited, number of strictly dermatological affections, which future experience may extend.

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The Deadly Cold Bed.—If trustworthy statistics could be had of the number of persons who die every year, or become permanently diseased from sleeping in damp or cold beds, they would probably be astonishing and appalling. It is a peril that constantly besets travelling men, and if they are wise, they will invariably insist on having their beds aired and dried, even at the risk of causing much trouble to their landlords. But the peril resides in the home, and the cold spare room has slain its thousands of hapless guests, and will go on with its slaughter till people learn wisdom. Not only the guest, but the family often suffer the penalty of sleeping in cold rooms, and chilling their bodies, at a time when they need all their bodily heat, by getting between cold sheets. Even in warm, summer weather a cold, damp bed will get in its deadly work. It is a needless peril, and the neglect to provide dry rooms and beds has in it the elements of murder and suicide.—*Druggists' Circular.*

Progress of Medical Science.

Malarious Africa.—Malarial fever is the one sad certainty which every African traveller must face. For months he may escape, but its finger is upon him, and well for him if he has a friend near when it finally overtakes him. It is preceded for weeks, or even for a month or two, by unaccountable irritability, depression, and weariness. This goes on day after day till the crash comes—first cold and pain, then heat and pain, then every kind of pain, and every degree of heat, then delirium, then the life-and-death struggle. He rises, if he does rise, a shadow, and slowly accumulates strength for the next attack, which he knows too well will not disappoint him. No one has ever yet got to the bottom of African fever. Its geographical distribution is still unmapped, but generally it prevails over the whole east and west coasts within the tropical limit, along all the river courses, on the shores of the inland lakes, and in all low-lying and marshy districts. The higher plateaus, presumably, are comparatively free from it, but, in order to reach these, malarious districts of greater or smaller area have to be traversed. There the system becomes saturated with fever, which often develops long after the infected region is left behind. The really appalling mortality of Europeans is a fact with which all who have any idea of casting in their lot with Africa should seriously reckon. None but those who have been on the spot, or have followed closely the inner history of African exploration and missionary work, can appreciate the gravity of the situation. The malaria spares no man; the strong fall as the weak; no number of precautions can provide against it; no kind of care can do more than make the attacks less frequent; no prediction can be made beforehand as to which regions are haunted by it and which are safe. It is not the least ghastly feature of this invisible plague that the only known scientific test for it at present is a human life. That test has been applied in the Congo region already with a recklessness which the sober judgment can only characterize as criminal. It is a small matter that men should throw away their lives, in hundreds if need be, for a holy cause; but it is not a small matter that man after man, in long and in fatal succession, should seek to overleap what is plainly a barrier of Nature. And science has a duty in pointing out that no devotion or enthusiasm can give any man a charmed life, and that those who work for the highest ends will best attain them in humble obedience to the common laws. Transcendentally, this may be denied; the warning finger may be despised as the hand of the coward and the profane. But the fact remains—the fact of an awful chain of English graves stretching across Africa.—*Drummond.*

Treatment of Rupture of the Uterus.—In an article by Dr. Berry Hart, on this subject, we are told that, in cases of rupture where the presenting part is still in the genital tract, it is evident we must deliver it in such a way as to avoid upward tension on the uterus, and therefore craniotomy or decapitation should be quickly employed. If the rent is not extensive, local irrigation with a dilute corrosive lotion, drainage, and abdominal pressure, or tamponnade of the uterus, vagina, and rent, with iodoform gauze should be performed; when the rent is more extensive, the edges should be approximated with tenacula while the tampon is being applied. With an extensive tear and escape of child and placenta, or any one of them, into the cavity, laparotomy is imperative for extraction and peritoneal toilet. Extensive tear means bleeding into the peritoneum, and great risk of ultimate septicæmia if the blood be not removed. The treatment of the extensive rent is the next question. Suturing alone is ineffective, takes long, and has not been followed by good results. It is in such that our choice lies between Prevôt's amputation or careful tamponning vaginally and peritoneally with iodoform gauze. In sixteen cases of this amputation five recovered. Leopold, however, has

recently recorded a case where the rent involved three-fourths of the lower uterine segment, and where the uterus was only attached by the left broad ligament. In this case laparotomy was performed, the pouch of Douglas plugged with a long strip of iodoform gauze, which was applied to the edges of the tear, brought round between the right side of the uterus and pelvic wall into the vesico-uterine pouch, and its end out at the abdominal wound. The uterine cavity and vagina were plugged with another strip. These were left in for fifteen days, and the patient made an uninterrupted recovery. In seven cases treated thus, Leopold saved two. Hence we should all endeavor to give such cases the chance that operative treatment holds out. Many of them are hopeless, but even the most skilled prognosis is sometimes at fault, and it is not the duty of any man in such emergencies to fold his hands and say the case is hopeless, the woman must be left to die.—*Edinburgh Medical Journal.*

Trephining for Cerebral Hemorrhage.—Dr. Championnière recently reported to the Académie de Médecine a case of trephining for cerebral hemorrhage, together with statistics of thirty such cases, all of which were non-traumatic in their origin. There had been no deaths and no untoward occurrences. The new case was that of a man, fifty-three years of age, who had had an attack of cerebral hemorrhage twenty months before. Right hemiplegia ensued, together with late contracture of the hand and epileptic seizures. The focus of disturbance in the brain was localized at the middle part of the precentral convolution. Cranio-metrical measurements were made, in accordance with the results of which trephining was performed. The remains of an old cerebral hemorrhage were found and removed. Antiseptic precautions were duly observed, and drainage was provided for. Time of operation, one hour and a quarter. The next day the contracture of the hand had ceased, and the hemiplegia showed marked improvement. Speech was more distinct, and the patient also showed greater intelligence. During four months he has had no return of the convulsions, from which, previous to the operation, he had suffered at least as often as once in two weeks. *Gaillard's Medical Journal.*

Causes of Hæmaturia.—In 100 cases the causes were as follows: Renal calculi, 30; enlarged prostate, 20; vesical calculi, 14; tumors, mostly malignant, 13; tubercle, 6; urethral stricture, 5; non-prostatic cystitis, 3; passage of calculi through ureter, 3; traumatism, 2; filaria sanguinis hominis 1; doubtful, 3.—REGINALD HARRISON in *Medical Press.*

The Action of Cod-Liver Oil.—Drs. Gautier and Mourgues, in a recent communication to the Academy of Sciences, discuss at some length the reasons why cod-liver oil is superior to other fats as a therapeutical agent, and arrive at the following conclusions: 1. It is more easily assimilated, owing to its containing free fatty acids and some biliary matters which render its emulsion specially easy when it comes in contact with the pancreatic juice. 2. It is rich in phosphates, phosphoric acid, lecithin, and phosphorus in organic combination; the phosphorus, especially in the last-mentioned form, is very readily assimilated to form protoplasm, and thus nutrition is greatly stimulated. The small amounts of bromine and iodine being also present as organic compounds exercise a beneficial influence on the general metabolism. 3. The alkaloids present—butylamine, amylamine, morrhuine—and morrhuic acid stimulate the nervous system, increase the amount of sweat and urine, and act as nervine tonics.—*The British Medical Journal.*

Fatal Poisoning with Salol.—Dr. Hesselbach has reported the case of a young man suffering with rheumatism, who took by mistake two drachms of salol. Coma resulted, with great dryness of the tongue, anuria, and death on the second day. At the necropsy the kidneys were found to be soft, anæmic, and of a pale yellow color; microscopically, the glomeruli were full of embryonic cells and leucocytes, the convoluted tubes were tumefied, and fatty degeneration had begun. The tubuli were filled with degenerated epithelium. There were no other lesions attributable to the drug. The toxic principle was the carbolic acid that is generated from salol in the system. The author believes that salol should be prescribed with caution, and the condition of the kidneys, as indicated by the urine, watched.

Statistics of Austrian Hospitals.—According to recently published official statistics, the number of hospitals in Austria in 1887 was 568, showing an increase of 11 as compared with the preceding year. The total number of patients under treatment in these institutions was 300,422, being 6,001 in excess of the number in 1886. Of these, 67.8 per cent. were cured, 16.1 per cent. relieved, and 5.8 per cent. unrelieved, while 10.3 per cent. died. Of particular diseases, syphilis took the lead with 24,522 cases, tuberculosis coming next with 17,790; one-third of the total number of deaths in all the hospitals together is credited to tuberculosis, while syphilis was accountable for only 0.31 per cent. In the 18 lying-in institutions 16,736 mothers, and 15,086 infants were cared for, the death-rate being 0.93 per cent. among the former and 5.21 among the latter. The asylums for the blind were 10, with a population of 706, of whom 17.2 per cent. were born blind; outside these establishments there were 14,798 blind persons, of whom only 2.2 per cent. were inmates of special institutions. The total number of cretins was 14,798, most of whom, of course, belonged to the Alpine districts.—*British Medical Journal.*

A Cruel Experiment.—Count Zorouboff, a medical man of scientific aspirations, has recently been charged with the sequestration of four children of tender age, upon whom he was carrying out a series of experiments of comparatively little value. In order to test whether children brought up without hearing the human voice would speak, he placed the children in confinement under the charge of a deaf-mute, and the children were growing up as he expected. The German law fortunately came to the aid of the children, and they were rescued, though the count escaped deserved punishment, as he had otherwise treated the children with care. He has, however, to provide for the children in the future. Supposing that some experimentalist captured the count, and carried him off to some castle to carry out experiments on the count's own body—say, to test the count's power of endurance under the lash, or how little food he could exist on, we think the count would hardly appreciate the scientific value of his experiments; or if the count had children of his own, he would hardly submit them to the class of experiment he was trying on the unfortunate children he became possessed of. The moral sense must be very much perverted when such experiments can be even thought of, and we regret to say that a large number of experiments performed at the present day have even less justification than is to be found for Count Zorouboff's investigations.—*Provincial Medical Journal.*

The Influence of Female Employment Upon Marriages, Births, and Deaths.—So far as English vital statistics throw light upon this subject, they appear to show that in counties where the proportion of women engaged in industrial pursuits is large, the ratio of early marriages, as well as the actual marriage-rate, is high; and that as a natural consequence the birth-rate is also proportionally high. With regard to the death-rate, we have at present no statistics which enable us to judge of the influence of female employment upon the mortality of women, but it is an undoubted fact that the rate of infant mortality is abnormally high in most of those counties in which the ratio of women engaged in industrial occupations is much above the average. The last annual report of the Massa-

chusetts Statistical Bureau, in dealing with the subject of industrial employment among women, supplies some information relating to its influence on marriage, birth, and death-rates, which, if mainly of a negative character, cannot be said to be without interest. After careful examination of the statistics of female employment in fifty cities and towns containing more than sixty-four per cent. of the total population of the State of Massachusetts, the opinion is expressed that employment of women in industry has not decreased the number of marriages or of births, and that neither has it increased the number of deaths. With regard to the proportion of women employed in "gainful occupations," it is stated that whereas in 1875 it was 21.3 per cent. of the whole, it had increased to nearly thirty per cent. in 1885. Stated in another way while the female population had increased 17.7 per cent. in the ten years, the number of employed women had increased 64.6 per cent. English census statistics showed a considerable increase of female employment between 1871 and 1881, but it is very unlikely that the results of the census next year will show a proportional increase of employment among women approaching that shown by the Massachusetts statistics. The influence of female employment upon marriage and birth rates, and upon mortality, is one which well deserves more careful investigation than it has yet received.—*The Lancet*, September 20, 1890.

Hairs as Records of Emotional Disturbances.— Dr. Pineus, of Berlin, claims to be able, by the aid of the polariscope, to detect certain traces of past emotions in the hairs. He explains that under the influence of mental disturbances of a violent kind the hairs become decolorized at the junction of the lower two-thirds with the upper third, reckoning from the surface of the skin to the root of the hairs. The observation, if exact, is interesting, but the recollection of such emotions is generally too vivid to render any artificial aid to memory necessary. If Dr. Pineus could only devise a means of detecting emotions to come, his *procédé* would excite a vast deal more curiosity.—*Medical Press.*

Milk Secretion in the Newly-born.—According to the observation of Dr. Variot, all infants, male as well as female, secrete a certain quantity of milk soon after birth. This usually attains its maximum during the second week where the mammary glands are prominent, the skin covering them is of a pink hue, and pressure causes pain. He observes that abscess of the breast is almost as frequent in infants as with nurses, a rather startling statement which the experience of every-day practice hardly bears out. Before the eighth and after the fifteenth day the liquid is serous rather than milky, and in this form the secretion may be prolonged as late as the fourth or fifth month. This observer failed to detect an analogous condition among the young mammifera of other species.—*The Medical Press.*

Observations on Sunburn.—Sunburn on the snow has been the subject of an interesting investigation by Dr. Robert L. Bowles. Alpine climbers concede the curious fact that sun on snow burns more quickly than on rocks or in heated valleys at a low elevation, and Dr. Bowles remarks that sunlight reflected from freshly-fallen snow acts much more energetically on the skin than that reflected from older snow. Dr. Bowles one brilliant day painted his face brown, and ascended the Gorner Grat, where there was much snow. There were about eighty others making the ascent. In the evening all excepting Dr. Bowles were smarting from the effects of sunburn. He points out that in Morocco, and all along the north of Africa, the inhabitants blacken themselves round the eyes to avert ophthalmia from the glare of the hot sand. In Fiji the natives abandon their red and white stripes when they go fishing on the reef in the full glare of the sun, and blacken their faces. In the Sikkim hills, also, the natives blacken themselves round the eyes as a protection from the glare of the sun on newly-fallen snow. Dr. Bowles concludes that heat is not the direct cause of sunburn, but that it is probably caused by the violet or ultra violet rays of light which are reflected from the snow.

Alcohol and Alcoholic Solutions in the Abortive Treatment of Herpes.—In a thesis published by Dr. Dupas, of Lille, the following directions are given for the treatment of this common and often troublesome condition: Alcohol of ninety per cent. strength, or a solution of two parts of resorcin to one hundred of alcohol, can be employed as a dressing; or, one per cent. of thymol or three per cent. of menthol in ninety-five per cent. alcohol. If the solutions cause too much pain a little cocaine may be added. Compresses moistened in one of these solutions are to be applied upon the lesions, and over this spread some impermeable material, or absorbent cotton may be used. These dressings must be changed frequently during the day. The herpetic eruption aborts rapidly under this treatment. The element of pain is also subdued, and it is not rare to see rebellious neuralgias from herpes zoster give way in a few hours to this treatment.—*Journal of Cutaneous and Genito-Urinary Diseases.*

Insanity and Bright's Disease.—Dr. Alice Bennett has made a thorough study of the relations between Bright's disease and insanity, and in an exhaustive paper read before the Pennsylvania State Medical Society draws the following conclusions: 1. That, contrary to the generally received opinion, affections of the kidney are very common among the insane. 2. That "uræmic poisoning" is one of the most frequent causes of insanity. 3. That while the mental manifestations may be as varied as there are different centres subjected to irritation by these unknown poisons, the most prominent and constant symptom is some form of mental pain, which may range from simple depression, through all degrees and varieties of delusions of persecution, self-condemnation, and apprehension, with or without hallucinations, up to a condition characterized by a frenzy of fear, with extraordinary motor excitement, and rapid physical prostration—the "grave delirium" or "typho-mania" of some authors. 4. That the motor centres are specially liable to be affected, as evidenced by the restlessness and incessant activity of many cases, less frequently by convulsions and convulsive twitchings; occasionally by choreic movements; occasionally by cataleptoidal states. Dr. Bennett cites a large number of cases in support of her deductions.—*Medical News*, October 4, 1890.

Autographism.—At a recent meeting of the Académie de Médecine, M. Mesnet referred to four patients, of whom he had made special inquiries, and who presented the singular phenomenom to which the term of autographism has been given. On the slightest touch the skin is reddened, so that by passing a pencil over different parts of the body reliefs of varied forms are provoked. The cases noticed by Mesnet all came from families highly nervous and presenting persistent symptoms of deranged peripheric sensibility, analgesia, insensibility of the mucous membranes at their point of origin, and often functional disorders of the organs of sense, especially of sight and taste. All four cases showed well-marked symptoms of hysteria and were easy subjects for hypnotism. M. Mesnet considers the phenomenon is purely reflex, but not transitory, as it persists for years and is not infrequently confounded with urticaria, being indeed styled "artificial urticaria," but it differs from urticaria in being unconnected with a diathesis.—*The Medical Press.*

"**Hay Fever**," said the Moderator, at the Influenza Convention, "may be likened to a tie vote."

"Hear, hear!" cried the audience.

"The eyes and nose both appear to have it."

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, October 11, 1890.

THE PATHOLOGY OF PHTHISIS.

THE whirligig of time has brought before us many changes in the views held as to the nature of phthisis pulmonalis. First there was the Galenical view that phthisis was an inflammatory and ulcerative disease, then came the doctrine of Laennec, Louis, and Rokitansky that phthisis was a specific tubercular disease and only incidentally and secondarily inflammatory. Then, under the influence of Reinhardt, Virchow, Niemeyer, and others, the medical world was nearly persuaded that phthisis was a caseous pneumonia, or, in other words, essentially an inflammatory process. Then came the discovery of Koch, which completely rehabilitated the old specific tubercular theory and placed it apparently upon an absolutely sound foundation. Pathologists, the world over, have without exception accepted the view of the pathogenesis of phthisis as given by Koch.

But now some doubters arise. Dr. Heneage Gibbs and Dr. E. L. Shurley have published in the *American Journal of the Medical Sciences* some papers in which they assert that phthisis and tuberculosis are absolutely distinct processes.

Phthisis, according to Dr. Gibbs, is primarily a broncho-pneumonia; tuberculosis consists primarily of giant-cells inclosed in a reticular stroma. Both the broncho-pneumonia and the tubercle may break down and form cavities; but whereas in phthisis tubercle bacilli are found uniformly from the beginning, in tuberculosis no bacilli can be found until after caseation begins. Dr. Gibbs calls in question the accuracy of Koch's experiments and denies the identity of the lesions of artificial tuberculosis with those found in the human subject.

While Dr. Gibbs asserts that phthisis is histologically distinct from tuberculosis, and that the two diseases are associated with the same bacillus, Dr. Shurley tries to establish a clinical distinction between pulmonary phthisis and pulmonary tuberculosis. The arguments presented by these gentlemen are by no means convincing, but their reputation as pathologists and clinicians entitles them to a fair hearing.

WHY NOT VACCINATE ON THE LEG?

THE following remarkable order has been issued by Health Commissioner Wickersham, of the Chicago Health Office:

"Hereafter the medical inspector of this department will vaccinate no one on the leg without special instructions from the commissioner."

In explaining this absurd order the good doctor is thus reported:

"It could not be helped. The fashion had grown beyond the bounds of reason, and this department will recognize it no longer. On Saturday afternoon six girls, two of them young women, came here to be vaccinated. They told the inspector that they wanted the operation performed on their legs. 'We don't want to disfigure our arms,' was their excuse. The girls were vaccinated as they desired. But that's the last," said the doctor, bringing his fist down on the table, "I want no more of them and won't bear them. If any girl is so fashionable that she is afraid a vaccination mark will detract from her beauty in an evening dress, she had better go to a private physician and have the operation performed in private. The old fashioned way is good enough for this office, and that's what the young women must put up with. The only exceptions in the future will be on my recommendation, and the applicant must make a personal request to me. If there is any reason why she should be vaccinated on the leg instead of the arm it will be done. You have no idea of the number of applicants there have been for this sort of thing lately. I believe it is a 'fad,' nothing more."

With all due respect for the doctor as an efficient health officer, he has evidently transcended his function in arbitrarily forcing his personal views upon the public. Even in this enlightened age vaccination is a tribute of respect by the public to the scientific demonstration of its protective power against epidemic small-pox. With a goodly number, however, it is simply a toleration of a method of practice which, from their point of view, is open to many objections. In other words, with the majority of good citizens it is just popular enough to hold its own as a health measure. Is it not safer, then, to let well enough alone rather than court unnecessary antagonism?

What right has the otherwise zealous public official to settle the question in an official way that school children shall be vaccinated on the arms only? Has the public no rights in the matter? What real objection is there against vaccinating upon the leg? Every child has a right to choose the part of the body on which to wear a life scar. Detraction from beauty is always a sufficient reason why one portion of the body should be substituted for another. If the child has the misfortune to be poor, that is no reason why her wishes should not be consulted. The arrogant repudiation of individual rights in this matter deserves a rebuke from the public. The commissioner owes it to his official position and to his profession to apologize for this unwonted assumption of power. His position is unreasonable and untenable.

SULPHATE OF CINCHONIDIA.

WHEN quinine was held at extravagant prices in this country several years ago, many attempts were made to introduce substitutes for it in the shape of its allied alkaloids. Most physicians were successful enough with these substances, but just as soon as quinine became cheap, the use of it was at once resumed. Of late years we hear

nothing of cinchonine, quinquinia, dextro-quine, and numerous others of the succedanea formerly in vogue.

A French physician, Dr. H. de Brun, of Beyroot, Syria, has, however, recently taken up the study of the sulphate of cinchonidia in a very serious and scientific spirit, and brings forward facts which will, he thinks, make a great revolution in the general prescription of the cinchona alkaloids. Dr. de Brun is Professor of Medicine in the College at Beyroot and physician to the French Hospital and general dispensary. He has had abundant opportunity of studying the comparative effects of quinia and cinchonidia, for malaria in all its forms is very prevalent.

With regard to the use of quinine, Dr. de Brun found it sufficiently efficacious, but he not very rarely met cases in which toxic symptoms were produced. He states also that there is a very great prejudice against the drug among the Syrians, on account of the tinnitus, deafness, and other unpleasant symptoms of cinchonism. Besides all this, the price of quinine was such as to prevent its general use in the dispensary and among the poorer class.

Dr. de Brun was led to select cinchonidia as a substitute for quinine not only on account of its cheapness, but because of the recommendations of previous observers, such as de Segrais, Weddell, Bourru, and Gubler, the last of whom states that a hypodermic injection of three grains of cinchonidia is equal in efficacy to one or two grammes of quinine by the stomach.

A great deal of quinine now comes from bark grown in Ceylon and Java. These barks are very rich in cinchonidia, for which there is hardly any market. Hence the price is very low. Quinine costs about fifty cents an ounce. Cinchonidia costs (in Syria) only seven or eight cents an ounce; in this country sixteen or seventeen cents.

Dr. De Brun reports in detail (in the *Revue de Médecine*, September, 1890) the histories of fifty-eight cases in which cinchonidia was used. The patients suffered from quotidian or tertian ague, with, in many cases, the classical signs of subacute or chronic malarial poisoning, also from larvated forms of ague with neuralgic attacks. Some of the patients had already been treated unsuccessfully with quinine.

The conclusions reached are that sulphate of cinchonidia, given in the same doses as quinine, combats the acute accidents of impaludism just as well as quinine. The drug is of equal value to quinine also in malarial cachexia anæmia, enlarged spleen, and visceral congestions; and in malarial neuralgias. Sulphate of cinchonidia is successful in some cases after quinine has failed. It is more soluble in water, and is less irritating to the stomach, and less easily causes ringing in the ears, deafness, and other symptoms of cinchonism.

It has usually been thought that cinchonidia was about one-third weaker than quinine. Even if it were only this, it would be a cheaper drug, as its cost is two-thirds less. Dr. de Brun, however, is convinced that the drug stands on a par therapeutically with quinine.

IS IT CHARITY?

During the year 1889 it is stated that over one hundred thousand patients were treated at the Vanderbilt Dispensary. The total number of patients treated at all the dispensaries of this city, according to the official lists, in the *Medical Register*, was, in 1889, about three hundred and fifty thousand, exclusive of those treated in the dispensary referred to. If the figures are correct, then within two years the medical paupers of the city have suddenly increased from 350,000 to nearly half a million. In other words, one out of every three or four inhabitants of the city receives medical advice gratis. Curiously enough, while the annual catalogue of the College of Physicians and Surgeons announces 102,000 patients treated in 1889 at the dispensary referred to, the *Medical Register* gives the number as 29,723. The same authority credits the Eastern Dispensary with the largest number of patients, viz., 61,228, and after this the New York Dispensary, 44,331, and Bellevue, 39,889.

Whatever be the true figures, it is evident enough that our medical charities, so called, are growing apace.

THE COLONIZATION OF EPILEPTICS.

Much attention has been and is still being paid in Europe to the care of epileptics. The physicians of Belgium seem to be especially alive to the needs of this unfortunate class. Three years ago M. Masoin made a report to the Belgium Royal Academy of Medicine upon hospitals for epileptics, and a special commission, composed of MM. Crocq, Hambursin, and Masoin have made a much more extensive report upon the hospitalization of epileptics, the extent to which it had been carried out in different countries, and the advantages of hospital or colony treatment of this class.

In Belgium there are estimated to be about four thousand five hundred epileptics among the six million inhabitants of that country. At that rate there would be between forty and fifty thousand of these unfortunates in the United States. Many of these have attacks but rarely, and are able to live with their families in comparative comfort. But the great majority become eventually enfeebled in mind, irritable, morose, and dangerous. Their seizures are a source of constant apprehension and terror. They are unable to earn a livelihood, and the lack of mental and physical occupation makes them worse. Yet they can find no hospital or special institution which will receive them, except workhouses and insane asylums.

The immense help and comfort afforded by special institutions for the care of epileptics has been amply proved by their success in Germany and France. Prussia, in particular, has done much in this direction, and has twelve epileptic institutions all erected by private initiative.

The best known of these is the colony of Bethel, founded by a clergyman, Pastor Bodelschwingh, in 1867. It has been described by Dr. Frederick Peterson, who has himself forcibly urged the need of a colonization of epileptics in this country. France has also two Bethel colonies for epileptics similar to, but smaller than, those of Germany. Beside this, she has the almost equally famous Teppe Asylum, founded by Count Larnage in the year 1857, and confided to the direction of the Sisters of St. Vincent de Paul.

Aside from Germany and France, modern nations have made but little special provision for epileptics, and we do not find our own country much behind England, Holland, Belgium, or Italy.

There are needed, however, homes for epileptics; places in which they can be comfortably taken care of, properly treated, and kept employed. Here is an opportunity for beneficent charity.

THE NARGHILÉ AND ITS SMOKERS IN THE EAST.

Dr. P. Emirzé, Physician to the Armenian Hospital at Smyrna, has contributed to the *Nouvelle Iconographie de la Salpétrière* an interesting study of the effects of narghilé smoking among Eastern people. The narghilé, or water pipe, is the chief or only method by which tobacco is used in the East. Theoretically it seems as if it ought to be the safest and most harmless form of nicotine indulgence. That it is not so, Dr. Emirzé's observations seem to show.

The narghilé, as used in Smyrna, consists of a bowl for holding the tobacco, from which a tube runs down into a vessel containing about two quarts of water. To this is connected a flexible tube with mouth-piece so arranged that by suction the smoke is drawn through the water. In the water are placed a few leaves of eucalyptus or laurel. The tobacco used is specially grown and prepared. It is cut into small pieces and macerated a short time in water, then dried, when it becomes ready for smoking. The amount employed and the strength are not told us, but it seems that the smokers, if very temperate, use two or three narghilés daily, while, ordinarily, four to eight or ten pipes are smoked. Forty patients, observed by Emirzé, had smoked eight to ten pipes daily for over twenty-six years.

The effects of smoking the narghilé are similar in most respects to those resulting from using cigars and cigarettes. The nervous and local symptoms are developed somewhat more slowly, but eventually are very severe. Besides this the extra inspiratory effort required to draw the smoke through the water-pipe, produces a degree of emphysema, which may become quite marked.

The disorders of the air-passages and lungs were, according to Dr. Emirzé, numerous and severe. Among 100 subjects, aged from twenty-five to thirty-five, who had smoked four to seven narghilés daily for five to ten years, he found emphysema in 23, chronic bronchitis in 18, pharyngeal catarrh in 26. Among 100 subjects, aged thirty-six to forty, who had smoked from six to ten narghilés daily for ten to fifteen years, there was a most pronounced emphysema and chronic bronchitis in 14; 2 had tachycardia, and 1 paralysis of the trigeminal nerves. Among 60 subjects, who had smoked eight to ten narghilés for fifteen to seventeen years, there were 4 cases of bronchiectasis, with fœtid expectoration; and 5 cases of hypertrophy of the heart, with valvular lesions, were observed.

Dr. Emirzé's observations, which included 300 cases, led him to the conclusion that the narghilé smoked in great moderation, that is to say, once or twice daily, is not only not harmful, but may be beneficial as a form of respiratory gymnastics, and as an expectorant. Smoked in any excess, however, it induces chronic pharyngeal, laryngeal, and bronchial catarrhs, angina pectoris, and pulmonary emphysema.

THE DESTRUCTION OF MICROBES BY AMŒBOID CELLS—PHAGOCYTOSIS.

A year or two ago Professor William Osler gave an interesting address in this city upon the subject of phagocytosis and Metschnikoff's theory of the battle between the leucocytes and the pathogenic micro-organisms. At that time it seemed that this theory, while a most suggestive and original one, could hardly stand the brunt of scientific criticism. Since that time it has continued to occupy the attention of pathologists, and it still holds its place among legitimate objects of scientific inquiry. In other words, it has still neither been completely established nor demolished. In view of this fact any new contributions to the subject are important, and among those is a brief communication from Dr. M. Armand Ruffer (*British Medical Journal*, August 30, 1890), entitled "Notes on the Destruction of Micro-organisms by Amœboid Cells."

Dr. Ruffer first studied sections of the Peyer's patches of rabbits, removed with antiseptic precautions, plunged at once into absolute alcohol, and then stained with carmine and gentian violet. He often found, crowded in between the layer of epithelial cells which lines the inner surface of the mucous membrane, leucocytes holding micro-organisms in their substance. He found the same bodies in the submucous tissue. He also found there lymphoid cells in various stages of enlargement until they were finally developed into those enormous cells which have been described usually as epithelioid. These large cells are, however, what Metschnikoff calls macrophages, while the smaller are the microphages. The macrophages sometimes contain in their protoplasm the microphages and also micro-organisms in various stages of disorganization. The leucocytes (microphages), as Ruffer believes, wander out to the surface of the lumen, seize the micro-organisms, and bring them back to be destroyed by the macrophages. Even the large cells in some lymphoid structures (tonsils) may wander to the surface and absorb microbes there.

Dr. Ruffer concludes that—1. The wandering cells of the lymphoid tissues of the alimentary canal have the power of proceeding to the free surface of such tissues and of taking into their interior micro-organisms and foreign matter (charcoal, etc.). 2. There are two kinds of wandering cells in the lymphoid tissues of the alimentary canal: *a*, microphages (small mono- or multi-nucleated cells; *b*. macrophages (large mono-nucleated cells). 3. The macrophages are developed from the small mono-nucleated lymphocytes. 4. Macrophages are able to swallow microphages (leucocytes), and to destroy and digest them. 5. The micro-organisms are rapidly destroyed in the interior of the micro- and macro phages. 6. Micro-organisms are never found lying free between the cells, or in the blood-vessels and lymphatics. 7. The destruction of micro-organisms taking place in the normal lymphoid tissues of the alimentary tract resembles, in all particulars, the destructive process following on the inoculation of pathogenic organisms into resistent animals.

Dr. Ruffer asserts, from further experiments, that the large epithelioid cells of the spleen, lymphatic glands, and those of the lungs, are really macrophages developed from the lymphoid cells. The giant-cells of the infec-

tious granulomata (*e.g.*, tubercle) are also thought to be of the same origin and function, and a tubercle is only a small battle-field between microbes and phagocytes.

Dr. Ruffer is evidently somewhat of an enthusiast upon the subject of the phagocytosis theory. There is, it should be remembered, a good deal of evidence to show that many microbes are killed in the vital fluids of the body, and that the microphages and macrophages only carry off the remains.

SURGEON-GENERAL JOSEPH D. BRYANT AND THE STATE GUARD.

It will not be possible for any medical man in the State to read the report of Surgeon-General Bryant, in the "Annual Report of the Adjutant-General of the State of New York," without a feeling of personal interest and pride in the Medical Corps of the State Guard. Nowhere else, except perhaps in the State Insane Asylums, is the care for the health of so many intrusted to so few. When this is considered in connection with the well-known fact that during times of war more men die from disease than fall by the hands of the enemy, it is a matter of surprise and gratification to know that, of the six thousand *en route* to, and present at, the State Camp at Peekskill, no one has died, and no form of disease peculiar to aggregated bodies of troops has caused apprehension to the medical officers, so thorough have been the sanitary precautions.

Surgeon-General Bryant again calls the attention of the Adjutant-General to the pernicious practice of issuing to recruits uniforms soiled and out of repair, that have been worn by men previously connected with the service, who may have been dismissed for dereliction of duty; and to the advisability of requiring a physical examination to be made of all recruits to the Guard. There can be "no sadder spectacle than that often witnessed in the State Camp, of men who, by reason of permanent physical incapacities, though with transient periodical manifestations of the same, are forced to a personal exhibition of these infirmities that is distressing to themselves and their friends, and demoralizing to their associates." It is not generally known that it is possible for a man deformed with Pott's disease and still wearing a brace, to gain admission to the National Guard; such however is the lamentable fact, as we ourselves have witnessed. There can be no question in the minds of the profession, and there ought to be none in the minds of those in authority, as to the necessity of immediate and radical reforms in the directions indicated.

Quackery as a Fine Art.—A representative of *The Times and Register* has been interviewing certain much-advertised quacks, who do business in this city as well as Philadelphia. Catarrh seems to be their specialty. At least they found a bad form of it in the perfectly healthful nasal and pharyngeal mucous membrane of the reporter. They proposed to treat and cure it in eight months, charging $15 for the first month and $9 for each of the remaining months. In consideration of the offer of a photograph and testimonial of cure the price was reduced to $12 and $7.

News of the Week.

Penal Code, Section 193.—According to the rulings of the court,

"If a surgeon, for the welfare of a patient, deems it best for him or her to perform abdominal section and death ensues, malice can, under subdivision 3 of Section 193 have him indicted for manslaughter in the second degree.

"If a surgeon neglects to perform abdominal section, when in the estimation of another it should have been performed, and the patient dies in consequence of the pelvic conditions, that surgeon, under subdivision 3 of Section 193 of the Penal Code, can be found guilty of culpable neglect and indicted for manslaughter in the second degree."

This seems to place the conscientious surgeon in rather a difficult position. Dr. Vander Veer, in discussing the subject of the medico-legal aspect of abdominal section, states that in his opinion the rulings of the Court are just and necessary, and he comes to these conclusions: 1. That we should exercise the greatest care in the examination of our cases of doubtful diagnosis. 2. That when in doubt we should lay great stress upon the necessity of an exploratory incision, and make a very proper explanation of what this means to the patient and friends. 3. That in the cases thus far brought to trial we have reason to believe that the judges in their rulings have treated our profession with great fairness, the strong points being, that the public good is not subserved by undue and wilful persecution of the surgeon who has shown the proper amount of intelligence in his profession. 4. That we should seek still to have the law so made in our favor as to eliminate the cases of wilful prosecution. 5. That in the careful study of these cases we have presented the lamentable condition of expert testimony. Men absolutely ignorant upon the subject, men who have never done an operation of any merit in surgery, being allowed to come upon the witness stand and testify as experts.

Dr. Peter Hood, of London, died recently in his eighty-second year. Dr. Hood was the author of several works, notably one upon gout and rheumatism, which was republished not long ago.

The Eyes of Eye Surgeons.—At the dinner of the Ophthalmological Section of the International Medical Congress at Berlin, Professor Hermann Cohn, of Breslau, showed a collection of autographs of the oculists who had taken part in the annual meetings at Heidelberg for twenty years, which was made specially interesting by the fact that opposite each name the signatory's visual power with the right and left eye respectively was indicated. Among other celebrities who figured in this list were Arlt, Horner, the elder Critchett, Schweigger, and Knapp. Among 44 oculists tested, visual acuity was normal in 32, over the normal in 10, and under it in 2. Twenty-eight, or sixty-one per cent., were short-sighted; the concave glasses required varied between Nos. 5 and 24, the average being 20, so that the myopia of the distinguished ophthalmologists in question was, as a rule, moderated in degree.

The Medical Practice Law of Minnesota has now been in existence for seven years. The law requires examination by a State Medical Board before a license to practise can be had. The effect of the law upon the relative number of physicians in the State is interesting: In 1883 the ratio between physicians and inhabitants was 1 to 650; according to the register just published the ratio is 1 to 1,250. The ratio for the whole United States is 1 to 520, so that when compared with the rest of the country Minnesota appears to offer a favorable field for the physician seeking a place in which to settle. Those who believed, says *The Northwestern Lancet*, that the Minnesota statute was class legislation, and cried out against the passage of the law because it would allow the medical profession in the State to shut out outsiders, will no doubt seize upon the relative decrease in the number of physicians in the State as proof that the objections to the law were well founded. An examination of the records of the Board of Examiners shows that the decreased proportion of physicians has not been due to the rejection of candidates, but to the fact that the knowledge of the existence of the law has greatly decreased the number of applicants for license. The State of Minnesota is entitled to great credit for its progressive attitude toward medical education and practice. Its local schools were among the first to insist upon longer and graded courses.

Poisoning by Bromæthyl.—Three cases of poisoning by bromæthyl have lately taken place in Berlin, and Dr. Mittenzweigs, in the *Journal for Medical Officers*, warns people against the employment of this narcotic in dentistry, where it has been much used, as well as in small surgical operations, until proper experiments have been made. In the cases of poisoning above alluded to, the doses had not been more than about twenty grammes.

The Medical Profession of Louisiana has again failed with the State legislature in the matter of a law to regulate practice.

Professor Metschnikoff, of Odessa, the distinguished Russian bacteriologist, has been appointed head of the Pasteur Institute in Paris, under the general direction of M. Pasteur.

Rush Medical College.—The Chair of Medical Practice in the Rush Medical College, Chicago, made vacant by the death of Professor J. Adams Allen, is said to have been offered to Dr. Henry M. Hyman, formerly Professor of Chemistry and of Diseases of the Nervous System in the same institution. Dr. Harold N. Moyer has been elected to the professorship of physiology.

The Missouri Medical College celebrated its semi-annual centennial on October 9th.

A Case of Hydatid Tumor of the Brain—Removal—Recovery.—Drs. James Graham and C. P. B. Clubbe, of Sydney, Australia, report, in the *Australasian Medical Gazette*, July 15, 1890, the first successful case of operation for a cerebral hydatid tumor in that colony.

International Congress of Otology.—It has been determined to postpone the next meeting of the International Congress of Otology, which has been fixed to take place at Florence, in September, 1892, till 1893, when it will be held at Rome, a week before the assembling of the Eleventh International Medical Congress.

Medical Congress in Russia.—The fourth congress of the Society of Russian Medical Practitioners will be held at Moscow, the day of meeting being fixed for January 3, 1891. The work is to be done in twelve sections.

The Effect of Iced Tea.—Dr. G. W. Bar writes, in the *Therapeutic Gazette*, that iced tea has none of the physiological action of theine if it is kept ice-cold for a short time. He says that he has known a man of nervous temperament, who is kept awake all night by a single cup of tea, to drink a half-gallon of iced tea during the evening and sleep soundly at his usual time of retiring. Others, made very "nervous" by hot tea, have been able to drink large quantities of iced tea with no appreciable effect. If the tea-grounds are allowed to remain in the liquid, the iced tea is usually kept long enough before drinking to dissolve more tannin than is usual in hot tea; hence the tea should be strained as soon as removed from the fire. A correspondent sends us a note to the effect that he has found that iced tea will sometimes cause pruritus ani. Brown-Séquard has made a similar observation regarding coffee.

A Two-Hundred-Thousand-Dollar Libel Suit.—Suit has been entered by William Radam, manufacturer of Radam's Microbe Killer, against the *Druggists Circular*, of New York, for $200,000 damages, the largest amount, so far as heard from, that was ever asked for in a libel suit of this kind. The pleadings show that the action is brought to recover damages claimed to have been done the business of the plaintiff by an article published in the *Druggists' Circular* for September, 1889. This article gave the result of an analysis of the Microbe Killer, made by Dr. R. G. Eccles, a prominent chemist of Brooklyn, who stated that an identical preparation could be made by the following formula:

Oil of vitriol (impure).....	4 drachms.
Muriatic acid (impure).....	1 drachm.
Red wine, about.....	1 ounce.
Well or spring water	1 gallon.

This mixture, it was alleged, could be made at a cost of less than five cents per gallon, for which Radam charged three dollars. It was further alleged that while, when properly used, sulphuric acid, the principal constituent of the Microbe Killer, was a valuable medicine, it was, when taken without due caution or advice, a slow but certain accumulative poison; and the theories advanced by Radam, as to the causes of diseases and the proper method of treatment, were alleged to be totally erroneous. Colonel Robert G. Ingersoll, the famous lecturer, is the counsel for the plaintiff. The *Druggists' Circular*, which is published at 72 William Street, New York, expresses a desire to hear of any case in which unfavorable results have followed the administration of the Microbe Killer, or of any other fact that would be interesting under the circumstances. They claim to have published this analysis without malice, and with the sole intention of protecting the public from the loss of their health and money by the use of a dangerous nostrum.—*Boston Medical and Surgical Journal.*

Signor Jean Succi, the Italian faster and African explorer, has arrived in New York, and intends giving here another public exhibition of fasting. His last exhibition was at the Royal Aquarium in London, where he fasted for forty days and two and a half hours.

Koch's Remarks upon his Probable Cure for Tuberculosis.—"I have proved the following substances to be remedies which hinder the growth of tubercle bacilli in tube cultures (to mention only the most important): A number of ethereal oils; among the aromatic compounds, β napthylamin, paratoluidin xylidin; some of the so-called tar-dyes, namely, fuchsin, gentian, violet, methyl blue, chinolin yellow, aniline yellow, auramin; among the metals, mercury in the form of vapor, silver and gold compounds. The compounds of cyanogen and gold were especially conspicuous, their effect surpassing that of all other substances; even in a dilution of one to two millions they checked the growth of tubercle bacilli. All these substances, however, remained absolutely without effect if tried on tuberculous animals. In spite of this failure I have not allowed myself to be discouraged from prosecuting the search for growth-hindering remedies, and I have at last hit upon a substance which has the power of preventing the growth of tubercle bacilli, not only in a test-tube, but in the body of an animal. All experiments in tuberculosis are, as every one who has had experience of them has sufficiently discovered, of very long duration; my researches on this substance, therefore, although they have already occupied me for nearly a year, are not yet completed, and I can only say this much about them, that guinea-pigs, which, as is well known, are extraordinarily susceptible to tuberculosis, if exposed to the influence of this substance, cease to react to the inoculation of tuberculous virus, and that in guinea-pigs suffering from general tuberculosis, even to a high degree, the morbid process can be brought completely to a standstill, without the body being in any way injuriously affected. From these researches I, in the meantime, do not draw any further conclusions than that the possibility of rendering pathogenic bacteria in the living body harmless without injury to the latter, which has hitherto been justly doubted, has been thereby established."

A Tolerant Bronchus.—Dr. Lapeyre, of Paris, reports (*Lancet*) a remarkable case, in which an elderly gentleman, in consequence of a sudden slap on the back, unconsciously drew the cigarette he was smoking into his right bronchus, where it remained without causing any symptoms, or in any way revealing its presence for nearly two months, when it set up pneumonia of a circumscribed area, and produced cardiac weakness and some œdema of the legs. After this condition had lasted without much change for about two months more, the patient expelled, during a violent fit of coughing, the cigarette, enveloped in mucus and waxy-looking matter, and then remembered that he had never found his cigarette after the slap on the back four months before. The pneumonia persisted for two or three months after the expulsion of the foreign body, and some œdema of the right leg, due probably to embolism, remained at the date of the report, nearly a year later.

The Medical Department of the Brazilian Army is being reorganized. The officers and their ranks are as follows: One inspector-general (general), three first-class surgeons (colonels), nine second-class surgeons (lieutenant-colonels), twenty-seven third-class surgeons (majors), eighty-five fourth-class surgeons (captains), and seventy-five assistant surgeons (lieutenants). The pharmaceutical officers are: One first-class pharmacist (lieutenant-colonel), two second-class pharmacists (majors), eight third-class pharmacists (captains), thirty-two fourth-class pharmacists (lieutenants), and forty-four assistant pharmacists (sub-lieutenants).

The New Medical Law of New Jersey.—Our medical friends in New Jersey, in their eagerness to prevent outside physicians from poaching on their preserves, may possibly find they have overstepped the limit of constitutional law. The old law, which was a very just one, required every physician, before he could practise outside his own State, to register his name, with the evidences of his authority to practise medicine, in the office of the county clerk. The new law, which went into effect July 4th, subjects every physician outside the State, except surgeons in the army and navy, to an examination before constituted authorities before he can prescribe even for his own patients who are sojourning for a time at the farm-houses or watering-places of New Jersey.—*New York Medical Times.*

Cremation at Milan.—Two systems of cremation are followed at Milan, by one of which the body is burned in a furnace surrounded by wood and charcoal, while by the other the combustion is brought about through a number of jets of gas which cast their heat upon the furnace from all sides. When wood and charcoal are employed about six hundred pounds of wood and one of charcoal are found necessary, and the process lasts two hours. When gas is used, all that is consumable in the body is burned up in less than fifty minutes. The body may, in ordinary cases, be introduced into the furnace with or without the coffin. But if death has been caused by some infectious disease the coffin and body must be burned together. The weight of the remains after cremation, in the form of bones and dust, is about four pounds. They are in color pure white, tinged here and there with a delicate pink; and it is a rule never to touch them with the hand. The bones and vestiges of bones (which are for the most part burned into powder) are taken up with silver tongs, while the ashes are removed from the furnace with a silver shovel, to be placed on a silver dish and then deposited in an urn for retention in the cinerarium. Here the ashes are preserved in separate compartments, each with a suitable inscription beneath it. The cost of cremation is $5 to a member of the Society for Extending Cremation in Italy, or $10 in the case of non-members.

The Prevention of Phthisis.—The announcement, almost simultaneously, of two methods of preventing the development of tuberculosis has apparently made very little stir in the medical world. The medical world, in fact, is getting apathetic on the subject of cures for phthisis. Still the present claims come from the two chief bacteriological laboratories of Germany and France respectively, and are put forth by Dr. R. Koch and by Dr. Grancher, both of whom are men to be trusted. Dr. Koch asserts, as we understand him, that he has found a chemical substance which, when given to animals, prevents the development of tuberculosis in them. Dr. Grancher has obtained by cultivation a fluid with which he vaccinates animals and thereby prevents also the subsequent development of tuberculosis.

Dr. Cosmo Brailly, of this city, died on October 5th, in the seventy-sixth year of his age. Dr. Brailly was born in France and graduated in medicine, in Paris, just fifty years ago. Dr. Brailly was author of a book called "The Destiny of Man."

Dr. Charles L. Hubbell died suddenly of heart disease on Tuesday in his room at the Taconic Inn, Williamstown, Mass. Dr. Hubbell was born in Williamstown in September, 1827. He graduated from Williams College in the Class of '46, and studied medicine at the Berkshire Medical College in Pittsfield, and also in New York. He went to the front in 1861 as surgeon of the Black Horse Cavalry, and served until the irregulars disbanded. He then entered the Twelfth New York Regiment as surgeon, and served until he was compelled by illness to resign, when he was made surgeon of the Board of Enrolment for the Army, and at the same time was appointed post surgeon at the Watervliet Arsenal, which place he held for twelve years. He was surgeon of the Marshall Infirmary, and connected with other hospitals and dispensaries in Troy until he went to Williamstown in 1885. He had been President of the Rensselaer County Medical Society, and was a member of the Berkshire and North Berkshire Medical Societies at the time of his death. He leaves five sons.

The Medical Society of the State of New York.—The Eighty fifth Annual Meeting will be held in the city of Albany, Tuesday, Wednesday, and Thursday, February 3, 4, and 5, 1891. The Business Committee has been appointed and is composed of the following-named gentlemen: Dr. Herman Bendell, 178 State Street, Albany, *Chairman;* Dr. Seneca D. Powell, 12 West Fortieth Street, New York; Dr. James D. Spencer, Watertown. It is desirable that all who intend to present papers shall send forward the titles thereof to any member of the Business Committee not later than December 15, 1890, as the programme will be made up and issued early in January.

Health Commandments.—We copy the following from the *Dixie Doctor*. It will strike the reader as being perhaps a little irreverent, and also as being rather more apodictic than exact in the field covered. For we are told not to eat pie, while nothing is said against whiskey. A large class of excellent people think that whiskey is less salutary than pie, but perhaps these people do not live in Dixie. "1. Thou shalt have no other food than at meal-time. 2. Thou shalt not make unto thee any pies, or put into pastry the likeness of anything that is in the heavens above or in the waters under the earth. Thou shalt not fall to eating it or trying to digest it. For the dyspepsia will be visited upon the children to the third and fourth generation of them that eat pie, and long life and vigor upon those that live prudently and keep the laws of health. 3. Remember thy bread to bake it well, for he will not be kept sound that eateth his bread as dough. 4. Thou shalt not indulge sorrow or borrow anxiety in vain. 5. Six days shalt thou wash and keep thyself clean, and the seventh thou shalt take a great bath, thou and thy son, and thy maid-servant, and the stranger that is within thy gates. For in six days man sweats and gathers filth and bacteria enough for disease; wherefore the Lord has blessed the bath-tub and hallowed it. 6. Thou shalt not smoke tobacco, for it is an abomination in the sight of all thoughtful men, and a mortal sin against thy Creator, who hast given thee a sound body and mind to be well preserved against such narcotic drugs. Remember thy sitting-room and bed-chamber to keep them ventilated, that thy days may be long in the land which the Lord thy God giveth thee. 7. Thou shalt not eat hot biscuits. 8. Thou shalt not eat thy meat fried. 9. Thou shalt not swallow thy food unchewed or highly spiced, or just before hard work or just after it. 10. Thou shalt not keep late hours in thy neighbor's house, nor with thy neighbor's wife, nor his man-servant, nor his cards, nor his glass, nor anything that is thy neighbor's."

A Country Doctor, being out for a day's shooting, took his errand boy to carry the game-bag. Entering a field of turnips, the dog pointed, and the boy, overjoyed at the prospect of his master's success, exclaimed, "Oh! master, there's a covey; if you get near 'em, won't you physic 'em!"—"Physic them! you young rascal. What do you mean?" said the doctor.—"Why, kill 'em, to be sure," replied the lad.

Obituary.

MONTROSE A. PALLEN, M.D.,

NEW YORK.

DR. MONTROSE A. PALLEN, of this city, died on October 1st, of heart disease, aged fifty-four. Dr. Pallen was born January 2, 1836, in Vicksburg, Miss. His father, a Virginian, was Professor of Obstetrics in the St. Louis Medical College for twenty-seven years. Dr. Pallen received his medical education at the St. Louis University, from which he was graduated in 1853. He studied medicine in the medical department of the same institution, and received his degree in March, 1856. He spent two years in the medical schools and hospitals of London, Paris, and Berlin, and then settled in St. Louis.

During the war Dr. Pallen was medical director of General Henry A. Wise's Legion in 1861, of General William J. Hardee's army corps in 1862, and later of the Department of Mississippi until February, 1863. Subsequently he was sent to Canada by the Confederate Government to report on the condition of the Confederate prisoners on Johnson's Island. He returned to Richmond in 1864, went to Paris, and obtained surgical and medical supplies for the Confederate armies. He was sent to Montreal again, but was captured on his way back to the South and held on parole in this city until the end of the war. He was Professor of Gynecology in the Humboldt Medical College in 1866–67, Adjunct Professor of Obstetrics in the St. Louis Medical College 1867–68, Professor of Gynecology in the St. Louis College of Physicians and Surgeons 1869–70; Professor of Anatomy in the Missouri Medical College, 1871–72; and Professor in the Medical Department of the University of the City of New York, 1874–82. In 1883 he assisted in forming the Post-Graduate Medical College in this city. He also served as surgeon to the Charity Hospital.

Dr. Pallen was widely known as a writer for medical periodicals, and published many articles on obstetrical and gynecological subjects. He was a member of the American Medical, and the New York Journal and Library Association, and of the New York County Medical, the New York Obstetrical, and the New York Neurological Society.

Society Reports.

AMERICAN GYNECOLOGICAL ASSOCIATION.

Fifteenth Annual Meeting, held in the Buffalo Library, Buffalo, N. Y., September 16, 17, and 18, 1890.

JOHN P. REYNOLDS, M D., OF BOSTON, PRESIDENT, IN THE CHAIR.

FIRST DAY, TUESDAY, SEPTEMBER 16TH.

Invited Guests.—After the roll-call, the following gentlemen were invited to take part in the proceedings of the Society, as invited guests: Dr. Roswell Park, Dr. Tremaine, Dr. Fredericks, and Dr. Mynter, of Buffalo; Dr. Keith, of Edinburgh; Dr. Buckmaster, of New York; Dr. Carpenter, of Cleveland; Dr. J. A. Temple, of Toronto, Canada; Dr. Robb, of Philadelphia; Dr. Rosebrugh, of Hamilton, Ontario.

The address of welcome was delivered by DR. ROSWELL PARK, of Buffalo, on behalf of the physicians of Buffalo.

Diagnosis, Pathology, and Treatment of Extra-Uterine Pregnancy.—The discussion was opened in a paper by DR. A. W. JOHNSTONE, of Cincinnati. He said that the amœboid state is the first picture in the life of all viviparous animals. Immersed in a proper nutrient fluid, all alike from the first segmentation go on to the formation of hypoblast, epiblast, and, later, the mesoblast. Up to a certain point, all that is required of the mother is to furnish the properly-conditioned nutrient fluid. In the lower animals this lymph can only be furnished during the "rut" and without it pregnancy is impossible. In the human being the "rut" is sempiternal, and pregnancy can occur at any time. The adenoid tissue which furnishes this lymph lines the uterine cavity and the fallopian tubes to their extremities. Strip off the cilia from the epithelium of the tube and you have a condition analogous to the uterine lining, a place for fecundation. Extra-uterine pregnancy does not occur with a normal genital tract. Various abnormal conditions may cause loss of the cilia, and leave a place to which the ovum can adhere. "How often can the diagnosis of ectopic pregnancy be made before rupture?" is the practical question. The patient does not, as a rule, consult her physician until the occurrence of pain, and every colicky pain means a giving way of some part of the tube. The bleeding does not usually become alarming until the second or third month. Extra-uterine pregnancy, when discovered, should be removed by abdominal section. Electrical treatment is dangerous in practice, wrong in principle, and disastrous in its final results.

Dr. Johnstone appeared sceptical in regard to the probability of such a condition as ovarian pregnancy. He claimed that the specimen which Dr. Mann presented, in 1888, was a dermoid cyst and not an ovarian fœtation as claimed by Dr. Mann.

Dr. Johnstone was followed by DR. MATTHEW D. MANN, of Buffalo, who said: The view that the union of the male and female elements takes place in the uterus is erroneous. In ectopic pregnancy the union must take place in the tube or beyond it, and most of these pregnancies are primarily tubal. There is no possible doubt as to the occurrence of ovarian pregnancies. The specimen exhibited by Dr. Mann, in 1888, was unquestionably one of ovarian fœtation, notwithstanding Dr. Johnstone's positive declaration to the contrary. Placental tissue is not found in dermoid cysts.

After rupture laparotomy is clearly indicated. Electricity is ordinarily of greatest value, for if the embryo be killed the danger of rupture is over.

The discussion was continued in a paper by DR. J. M. BALDY, of Philadelphia. He stated that his arguments would refer to tubal pregnancy in the earlier stages of that condition. He did not deny the possibility of an ovarian or abdominal pregnancy, but claimed that, in the earlier stages, a differential diagnosis is quite out of the question, the symptoms are the same.

Symptoms of Ectopic Pregnancy.—The following are the symptoms of ectopic pregnancy: 1. A spurious fluid, simulating menstruation, which is at first lighter and then darker in color than the normal discharge, and which contains clots and shreds. 2. Pain, intermittent in character, cramp-like, and becoming more severe and more frequent. It may be so severe as to cause syncope, and its situation is invariably low down in the pelvis. This pain, in connection with the pseudo-menstrual flow, is strongly suggestive of ectopic pregnancy. 3. Discharge of shreds of decidua, with or without clots. 4. General signs of pregnancy, gastric, etc. 5. An occasional cyst in connection with one uterine appendage. 6. The patient's belief as to whether she is or is not pregnant. 7. Occasional elevation of temperature and acceleration of pulse. 8. At the period of rupture great pain and collapse, and the general signs of internal hemorrhage.

Dr. Baldy stated that the following propositions were justified by his experience and that of others: I. In a certain proportion of cases the symptoms, until rupture has occurred, are entirely wanting, or of such dubious character as to in no wise warrant a diagnosis of ectopic pregnancy. II. In a certain (quite large) proportion of cases sufficient symptoms are present to more than warrant a diagnosis of extra-uterine pregnancy, such a pregnancy not being present. III. In a certain proportion of cases, in the early stages, the diagnosis of extra-uterine pregnancy is easy and unmistakable.

Dr. Baldy believes that many cases of ectopic pregnancy go on to a spontaneous cure; that in some other cases there is death of the embryo and subsequent partial or complete absorption of the resulting hæmatocele, embryo, and membranes.

Where diagnosis is certain, laparotomy is to be preferred to electrical treatment. The former advocates of electricity now seem to favor laparotomy.

Ruptured Tubal Pregnancy.—DR. CHARLES JEWETT, of Brooklyn, presented a report of a case of "Ruptured Tubal Pregnancy," with the notes of the post-mortem examination.

A paper entitled "Under what Conditions can Electricity be of Positive Service to the Gynecologist," by DR. ANDREW F. CURRIER, of New York, was read by title.

DR. A. J. C. SKENE, of Brooklyn, believed that it was highly important that a diagnosis should be made in all cases of extra-uterine pregnancy with equal certainty whether the treatment contemplated be that of electricity or laparotomy, in order that patients *in extremis* could be intelligently cared for. He hesitated somewhat in expressing his views in regard to the importance of diagnosis, a subject about which so much has been said, but stated that he was firmly convinced that extra-uterine pregnancy is as easily diagnosed as any known affection of the female pelvic organs—as pyosalpinx or ovarian cyst—if there be no complication of other pelvic disease. Of course, if the case is complicated like the one mentioned, where the anatomy of the pelvic organs undergoes an entire change, diagnosis will be more difficult, but that is true of affections of any part of the body. It is very true, however, that patients very often do not come to us until after rupture occurs, and then, of course, a diagnosis cannot be made.

The doctor referred to a case of pregnancy in one horn of a uterus bicornis, in which he had treated the patient for dysmenorrhœa, the pregnancy occurring subsequently. The sac was soft, fluctuating, and movable, and lay in the region of the right tube, and had every appearance of a tubal pregnancy, which he should have diagnosed as such had he not been familiar with the previous history of bilobed uterus. This condition of pregnancy in one horn of a bifid uterus he held to be the only one which could not be differentiated from tubal pregnancy with certainty,

and that, excluding this one condition, the diagnosis of ectopic gestation was as easy and certain as any other form of disease.

In regard to the treatment of these cases by electricity, the speaker expressed the regret that such an important subject should have been so heatedly and doubtfully discussed, and that it should have received such merciless condemnation from the advocates of laparotomy, and believed that such acrimonious discussion between the electricians and laparotomists would never lead to the determining of the true value of either method of treatment, and he hoped there would soon be an end to it. He had seen no evidence that electricity was especially dangerous, and believed that it could be employed with entire safety, and failing to cure did not prejudice in the least the resort to the more conservative method of laparotomy. The laparotomists say that their operation must be done by "competent hands." Considering that the cases for laparotomy are emergency cases, perhaps if they examined the histories of the cases that have been operated upon by presumably "competent hands," they would not be so ready to condemn electricity.

Dr. W. W. Jaggard, of Chicago, thought Dr. Johnstone's statement in regard to the spermatozoa determining the site of the fecundated ovum did not throw any light on the general point of fecundation; and that to attribute the cause of labor to the cessation of the influence of the spermatozoa was carrying the action of the ferment a little too far. He was sure ovarian pregnancy had been definitively proved, and was not a discussable point, and that it was useless to discuss the case referred to by Dr. Mann, as the presence of decidua and villi had not been demonstrated microscopically. He thought it looked like a tubal pregnancy rather than a dermoid cyst, but did not think it wise to take cognizance of the observations of an unfamiliar observer in a case of this kind. Many things look like and are called fœtuses that are not fœtuses.

The speaker called attention to the fact that a great many cases of so-called tubal pregnancy are simply hæmatoma of the tubes, and that many cases of hæmatosalpinx are really tubal pregnancies.

Dr. A. Kellar reported several cases in which villi of the chorion were found in these blood-tumors of the tubes. The natural history of tubal pregnancy has three terminations: 1, Death before rupture; 2, rupture; 3, going on to term. When the tube ruptures, the following subterminations may be observed: 1, Rupture into the broad ligament with formation of hæmatoma of broad ligament, favorable termination; 2, after rupture ovum may remain in situ and plug it up, acting as a tampon, favorable termination; 3, it may rupture with formation of retro-uterine hæmatocele, favorable termination; 4, rupture into the abdomen with intra-peritoneal hemorrhage. With the exception of the last, all of these are favorable terminations, and, as a rule, ruptured tubal pregnancy will recover, if left alone.

He agreed perfectly with Dr. Skene in regard to diagnosis being easy in uncomplicated cases. And cited a typical case of tubal pregnancy (seen recently with Dr. Bonner, of Chicago) diagnosed and operated on before rupture, with removal of fœtus intact, the patient making good recovery. The points in the diagnosis were: Slight bluish discoloration of the anterior vaginal wall, softening and compressibility of the lower uterine segment (Hegar's sign); uterus displaced to the left, retroflexed, enlarged, and of a peculiar, soft, doughy consistency; to the right of the median line a well-marked small, almond-shaped, non-fluctuating tumor, resembling somewhat an ovarian cyst. This woman was thirty years old, and had three children; two were born at regular intervals of about two years, and there was an interval of three years between the third and fourth pregnancies, which latter was on the right side, and it should be noted that the typical cases of extra-uterine pregnancy occur in old multiparæ going a long interval between pregnancies, or in primiparæ who have been sterile for a long time.

The evidence in favor of laparotomy, where diagnosis is made before rupture, is conclusive.

Dr. Veit's article on the diagnosis and treatment of early tubal pregnancies, including some ten cases diagnosed before rupture and operated upon with but one death, was referred to as being the best result obtained by any method of treatment.

He makes the following objections to the use of electricity: 1, Danger of rupturing the sac; 2, uncertainty in diagnosis; 3, after the eighth week it is hopeless to expect resorption of the fœtus or placenta. He agrees, however, with Dr. Skene, that it is well to be temperate in the condemnation of electricity.

The universal proposition that every case of ruptured tubal pregnancy is an indication for laparotomy is an erroneous one, and has proved most disastrous in practice. The principal indication for laparotomy is where there is a free intraperitoneal hemorrhage. In the event of hæmatoma of the broad ligament, broad ligament pregnancy, rupture of the tube, the clot acting as a tampon, the indications are all strongly against laparotomy.

Dr. H. P. C. Wilson, of Baltimore, was entirely in accord with Dr. Skene. He believes extra-uterine pregnancy is very frequent, but that ovarian pregnancy is very rarely met with; that if ectopic pregnancy can be diagnosed in its early stages electricity is the proper treatment. He would adopt three months as the limitation for the application of electricity to destroy the fœtus, rather than four months, as advised by Dr. Mann, and has succeeded a number of times in destroying the fœtus before the end of the third month. Failing in that he would resort to surgical measures, which he estimates to be fully as valuable under the proper indications as electricity. In the early stages of ectopic pregnancy the women are usually in good health and cannot believe that such a serious thing as cutting into the abdomen is necessary, and you can rarely get their consent to such a procedure, hence the resort to electricity. In hospital cases you may operate at the beginning, but not in the better class of patients. Should the case, however, go on beyond three months, to cut in and remove the fœtus is the manifest duty of the gynecologist.

Dr. Howard A. Kelly, of Baltimore, referred to Mauriceau's case of extra-uterine pregnancy in 1669, described as follows: "History of a woman in whose abdomen there was found, after death, a small fœtus about two and one-half inches long, together with a great quantity of coagulated blood." The woman had borne eleven children at term but in the twelfth pregnancy at two and one-half months the uterus dilated in the direction of the right horn and ruptured. It was thought by many to be a true tubal pregnancy, and cited as an instance of retention of an ova in the tube, becoming fecundated, and subsequently going on to gestation within the tube, and final rupture. Mauriceau called it a hernia from the uterine body proper, and was much opposed to its being called a tubal pregnancy, which it was not. It was plainly a case of pregnancy in a rudimentary cornu uteri, demonstrated by a small bridge of tissue between the fœtal sac and the uterus; decidedly not a tubal pregnancy, because the round ligament of the right side was displaced downward.

In the last century there was much excellent work done in this direction. The best plates ever published on abdominal extra-uterine pregnancy, were by Deutsch, in 1792, showing the fœtus life-size in the belly of the mother attached by the cord to the placenta which is implanted low down in the abdominal cavity.

The speaker believed it was possible to recognize the following forms of extra-uterine pregnancy. 1, Interstitial; 2, tubal; 3, tubo-ovarian (doubtful); 4, ovarian, proven beyond a doubt by the cases of Gottschalk, in the *Centralblatt*, 1886, Patenko, Leopold, and Spiedelberg; 5, primary abdominal, remaining to be proved. The

tubal may be divided into: *a*, Isthmial; *b*, isthmio-ampullar; *c*, ampullar, according to their relative position in the tube.

The critique of ovarian pregnancy: An extra-uterine fœtal sac, which must have the same relation to the uterus as the ovary maintains; the tube must remain intact, and the ovarian ligament connecting the side of the sac with the uterus must be present. The ovarian ligament is as important to the establishing of ovarian pregnancy as the round ligament is to that of interstitial pregnancy.

In a case five months beyond term, recently operated upon in the Johns Hopkins Hospital by Dr. Robb, which proved beyond question to be an unruptured tubal pregnancy, ovarian tissue was present in the sac-wall, which goes to show that the mere evidence of ovarian tissue in the walls of the sac is not conclusive of ovarian pregnancy.

It is interesting to note how the men who claimed no diagnosis could be made have shifted their ground since so many positive diagnoses have been made, and now say that diagnosis cannot be made before rupture. Very few cases are seen before rupture, but the following case was diagnosed by the speaker, and seen by Dr. Robb, before rupture, and operated upon with removal of the unruptured sac. Mrs. B——, been married three years, aged twenty-two, had had one child and one premature stillbirth. Came under observation early in December, 1885. Had menstruated regularly up to July previous, but from that time to the middle of November she had not menstruated. Menstruation began again in the middle of November with the discharge of "a piece of flesh," as she termed it, and with the re-establishment of menstruation she was relieved of severe pain arising from a lump low down on the right side which she had suffered constantly from since early in October. First examination showed a very smooth, tense, elongate tumor, anterior to the cervix, lying far back in the sacral hollow; could be easily felt over the whole extent of the anterior vaginal wall, extending above half-way to the umbilicus, presenting peculiar tense fluctuant feeling. Uterus small and retroposed, reclining in the hollow of the sacrum.

At her next visit she thought herself pregnant. The uterus could not be felt so clearly and the case presented the appearance of extreme anteflexion of a pregnant uterus. After this she had several bloody discharges up to March 8th, when she had regular flow for five days.

At this time tense ovoid cyst could be felt through the anterior vaginal wall, on the right side, its axis in the plane of superior strait, anterior extremity at symphysis pubis to the right, posterior extremity at right cornu uteri; connected by short pedicle to the uterus; sensitive, smooth, and had remarkable rubber-ball, elastic feeling; much tenderness low down on left side, where there is an indistinct worm feeling about the retroposed cornu uteri. The tumor had diminished remarkably in size while under observation. Diagnosis of extra-uterine pregnancy positively made and operation performed in the presence of five other gentlemen.

In these cases it is always best to assume that the worst condition is present until by proof it is excluded.

The most recent case in which diagnosis was correctly made before operation was in the practice of the speaker at the Johns Hopkins Hospital, before thirty-two witnesses; confirmed by operation, removing well-developed fœtus from the abdominal cavity, where it had escaped from a ruptured tube. Diagnosis can be positively made if the following symptoms are present: 1, Cessation of menstruation followed by irregular recurrence; 2, pain in the lower part of the abdomen; 3, fluctuating tumor; 4, enlarged uterus (not always present); 5, discharge of membrane, which is very characteristic; 6, milk in the breasts; 7, tumor diminishing in size under observation —a pathognomonic sign, rarely present unless electricity be used, which, of course, implies death of the fœtus. There is another class of doubtful cases where some of the symptoms are present, and still another class of uncertain cases where there are no signs and which are generally discovered accidentally. If he finds a freely movable tumor in the abdomen he would perform laparotomy, but if the tumor has ruptured into the broad ligament he would use electricity and wait for results up to the end of the third month.

He would not consider the life of the fœtus to the detriment of the life of the mother, but consider the fœtus simply as a malignant foreign body. If he had a living fœtus at term he would open the abdomen, and if it prove to be an unruptured tube, with the placenta enucleated in the sac, the latter could be removed and the life of the fœtus saved. If the placenta were attached to the intestines he would remove the fœtus and drop the funis back into the abdominal cavity, and later perform laparotomy if necessary.

Dr. Hunter Robb, of Philadelphia, believed that the tubes were the most frequent site of fecundation, that ovarian pregnancies do take place, and agreed with Dr. Jaggard that microscopical examination is alone reliable in determining this condition.

He believed the diagnosis was as easy as that of fibroid or parovarian cyst. He corroborated Dr. Kelly's cases.

Dr. Joseph Taber Johnston, of Washington, remarked that the paper of Dr. Hanks, read before the Society in 1888, gives the history of eleven cases, with the statement that diagnosis ought to be possible in ninety or ninety-five per cent. of all cases; that he believes in electricity in the beginning and operation afterward if necessary. He thinks electricity will kill the fœtus and that in all cases of rupture the operation should be done at once.

Dr. A. N. Buckmaster, of Brooklyn, thought it would be a fatal blow to the use of electricity in these cases if it should be proved that it could not accomplish the destruction of the fœtus. In reply to Dr. Baldy's accusation, that he had with twenty milliampères failed to kill the fœtus, he said that there was a large fibroid tumor present, through which the current passed, and that very little could reach the fœtus in utero; that it is unfair to assume that because the current applied at a point outside the fœtus in the uterus failed to kill, that it would not destroy the fœtus in the tube, and that it was not a case to be quoted against the use of electricity.

Dr. J. A. Temple, of Toronto, related a case of extra-uterine gestation in which he operated and removed the tumor and tube without rupture. Patient made good recovery and stitches were taken out on the sixth day. On the eighth day she had a severe attack of mania and talked incessantly day and night for three days, resisting all methods of treatment. On the twelfth day she became semi-comatose, did not recover consciousness, and died on the twenty-third day, perfectly insensible. Passed abundance of urine which showed no traces of albumin, no symptoms of paralysis present. Fed with stomach-pump for eleven days. He was confident the patient did not die from septicæmia or other similar affection, as the result of the operation, which he believed was a case which had every indication for such a procedure, but that she died from some unknown cause. No autopsy could be obtained.

Dr. Matthew D. Mann, of Buffalo, reiterated the views expressed in his paper in regard to the specimen which he presented two years ago, and, notwithstanding Dr. Johnstone's doubts of its genuineness, he still held it to be a true ovarian pregnancy. His opinion in regard to the use of electricity in properly selected cases was also unchanged.

Dr. A. W. Johnstone, of Cincinnati, doubted the existence of ovarian pregnancy, and believed he had never seen a true case. He believed the electrical treatment subjected the patient to all the recurrent evils of pelvic disease, and the only safe method was to cut in and clear everything away without delay.

Question of Amperage in the Treatment of Fibroid Tumors by Electricity.—Dr. W. C. Ford, of Utica, read

a paper on the above subject. Myomatous growths are easily managed by galvanism. They are of comparatively low resistance, a very large and hard one offering but 300 ohms. The question has been asked, "What happens when the current passes through a fibroid mass?" Simply the separation of the fluids in this mass and their reformation into different chemical combinations which interfere with the intra-uterine existence of the growth. This is merely a process of electrolysis. The current necessary to produce this electrolysis is not one of tension, but of volume or quantity, and this depends entirely on the cell which is used. The small bichromate of potash battery with a single plate of zinc and carbon, which we find so much in use, unless a very large number of cells are employed, does not give sufficient volume—has not sufficient amperage—to effect the necessary electrolysis, but by using a larger cell, having a zinc plate between two good-sized carbon plates. say seven by two, we get a greater surface exposed for chemical action and hence a greater volume, or amperage, of current, which affords sufficient electrolytic action to decompose the fluids of the fibroid tumor and arrest its growth; but with high tension and low amperage, as in the small-cell battery, this result cannot be accomplished without employing a great number of cells. The latter has an electro-chemical or cauterizing action, while the former produces simple electrolysis.

He uses the negative or active electrode in the uterus, and the positive electrode externally over the abdominal wall. His uterine electrode consists of a pure platinum needle with a blunt end, like Apostoli's needle. He has also used the gas carbon electrode. For an abdominal electrode a plate of copper, covered with punk, is substituted for Apostoli's clay electrode. The plates are of all sizes.

The fluids of the tumor decompose at the internal negative electrode and bubble up and run out over the electrode in sufficient quantity to be caught in a spoon speculum after a few minutes' application, if the current have the proper amperage. The author has accomplished this with a battery of fifteen of the large bichromate of potash cells referred to. The fluid of the tumor has an intense chlorine smell and is strongly alkaline The current is well distributed by the abdominal electrode, and there is no risk of blistering the abdomen as there is absolutely no cauterization produced.

The author was convinced that the cure of these fibroids by electricity could be brought about in no other way than by having a sufficient *volume* of electricity carried by the electrode to produce perfect electrolysis.

Dr. Tremaine, of Buffalo, after an experience of sixteen cases, was disappointed with electrical treatment. He questioned why the current which decomposed the tumor did not have the same effect on the abdominal walls and intervening tissues.

Dr. A. J. C. Skene, of Brooklyn, replied that the tumor, being of low vitality, was decomposed, while the normal intervening tissues, being of a higher vitality, resisted electrolysis. He would avoid cauterization, as it is not necessary to stop the growth of the tumor. The positive pole in the uterus produces stenosis, which can be avoided by using the negative pole. He would limit the word "cure" to mean an arrest of growth, and in that sense there were many cures.

Dr. H. P. C. Wilson, of Baltimore, preferred the carbon uterine electrode to the platinum for bleeding myoma. He would not use electricity in intra uterine pediculated myoma or sub-peritoneal pediculated myoma, or soft œdematous myoma, but in the intra-mural he believed electricity would cure.

Dr. Mynter, of Buffalo, thought the diversity of opinion in regard to electricity due to the fact that many operators used a battery producing an electro-chemical or cautery effect, instead of one producing electrolysis, and that electro-chemical action frequently caused sloughing.

Dr. George Keith, of Edinburgh, believed it most important to first make a correct diagnosis, and then treat.

Dr. Rosebrugh, of Hamilton, Ont., asked whether any ergot or other medication was given in addition to the electricity.

Dr. Wilson considered ergot worthless. He used bromide of potash to regulate the nervous system, and kept the bowels regulated.

Dr. Ford never found soft œdematous fibroids unyielding to electricity, but in very hard ones he had found it necessary to cauterize.

Dr. Gehrung, of St. Louis, was in favor of puncture and electrolysis, using trocar electrode and double cannula with tubes attached, so that if the fibroid is a cystic one the aspirator can be applied and the cyst cavities washed out.

Dr. Skene in cases of bleeding fibroid would remove a portion of the hypertrophic uterine mucous membrane, and apply iodine to the membrane as a disinfectant. In severe hemorrhage he thought hydrastis canadensis was the best disinfectant and had a salutary effect on the uterine mucous membrane.

Second Day, Wednesday, September 17th.

Vaginal Fixation of the Stump in Abdominal Hysterectomy was the title of a paper by Dr. Henry T. Byford, of Chicago. Extended experience had taught the writer the advisability of modifying his former method of operating. He now separates the bladder from the cervix, cuts and tears down through the anterior vaginal wall, anteverts the stump into the vagina, holding it there by tenaculum forceps. The peritoneal cavity is closed by suturing the reflected edge of the bladder peritoneum to the posterior surface of the stump with catgut. The use of the elastic ligature on the stump is most important.

Dr. Byford reported eight cases, and in only one of these was the result unsatisfactory, and in this fatal case the operation was not at fault.

Dr. Howard Kelly, of Baltimore, divided fibroids into four classes: 1. Pediculated intra-uterine, which can be removed through the cervix; 2, those which can be removed through the abdominal incision by myomectomy without removing any substantial portion of the uterus; 3, distinctly pediculated, which can be removed by supravaginal hysterectomy; 4, atypical cases, spreading out laterally in the broad ligament, non-pediculated, usually followed by death from hemorrhage and shock.

The ligation of a pedicle controls hemorrhage for the time being, but it may become a source of contamination after it is dropped back into the abdominal cavity by a recurrence of the hemorrhage.

He considered Hegar's method of allowing the stump to slough off as unsurgical a procedure as to tie a string to the finger and allow it to slough off. His plan is to suture the stump with buried and superficial sutures and suspend it in the lower angle of the abdominal incision. He has done this nine times with but one death, which was due to vascular lesions. He believes Byford's method of vaginal fixation is more specially adapted to small tumors, and that he would have difficulty in dealing with a broad pedicle; but it has the advantage over his own method of avoiding the risk of hernia following suspension of the stump in the abdominal incision, and by its dependent position also affords excellent drainage.

Dr. William M. Polk, of New York, would treat the large non pediculated tumors spreading out in the broad ligament by a process of complete enucleation, ligate the uterine artery, and, in case there was profuse hemorrhage from the posterior wall of the tumor, would ligate the utero sacral ligaments. The cervical canal is thoroughly cauterized and the iodoform packing brought out through the abdominal incision.

Dr. E. C. Dudley, of Chicago, had twice successfully performed Byford's operation, with a simple modification in the iodoform packing.

Dr. Skene thought Byford's method only applicable where the stump is small. He believed complete removal of the cervix, or dilation of the cervix and complete inversion of the same, might be substituted for Byford's operation.

Dr. Joseph Taber Johnson, of Washington, had successfully performed Bantock's operation in five cases. He preferred a long convalescence, due to the sloughing off of the stump in this operation, to some other operation without recovery. Complete removal of the infected stump, with proper drainage, he thought would be the ideal method.

Dr. E. C. Dudley had found inversion of the stump almost impossible to accomplish. He considered the entire removal of the stump, with vaginal clamp, a very difficult, and not very practicable operation. Byford's method should be employed in all cases of large fibromata which completely fill the uterus and spread out into the broad ligament. The vagina will hold quite a large stump.

Dr. George Keith, of Edinburgh, stated that his father had not given up hysterectomy, but that he always resorted to it if electricity previously applied proved unsuccessful.

Dr. Polk thought this was encouraging to those who held the same views as the elder Keith. He agreed with Dr. Dudley in regard to complete removal of the uterus and cervix with clamps in the vagina to control hemorrhage, and considered it inferior to complete extirpation of the uterus with the use of the ligature. Byford's method has the advantage of simplifying and shortening the operation.

Dr. Howard Kelly believed there was a certain class of cases in which the hemorrhage could not be controlled by the methods discussed. He exhibited a corrugated uterine sound which he had devised by which he could locate the uterine arteries when they were displaced, and thus control hemorrhage. In cases of excessive hemorrhage he would tie the ovarian veins and arteries up into the abdominal cavity, and in desperate cases, where it was impossible to remove the tumor, he would adopt the heroic treatment of temporarily compressing the abdominal aorta. He considered Bantock's operation as only fitted for cases of pediculated fibroids, and if applied exclusively to such cases the mortality should be nil.

Dr. J. C. Temple, of Toronto, thought total extirpation of the entire mass the most rational procedure, and that inversion of the mass through the dilated cervix was attended with the greatest difficulty. He believed Byford's method a good one in selected cases where the whole of the tumor was not to be removed.

Dr. Byford closed the discussion.

Injuries to the Ureters During Labor, was the title of a paper by Dr. A. J. C. Skene, of Brooklyn. He believes that many symptoms following labor are due to injury to the ureters. The discharge of blood and pus, in from three to five days after labor, may be caused by blocking up of the ureters on account of a pressure from the head of the child, or other conditions which may produce partial or complete closure. Acute disease of the kidneys may occur secondarily. The diagnosis of injury to the ureters must be made by excluding the ordinary puerperal affections. The natural tendency is toward recovery, but uræmia due to disease of the kidneys may prove fatal.

The following is a convenient classification of diseases and injuries to the ureters: 1, Injuries of the ureters during labor; 2, obstructions of the ureters secondary to other pelvic inflammations; 3, obstructions due to neoplasms and uterine displacements. The second and third are taken from Englemann.

The conditions which predispose to injury of the ureters are: the bladder and terminal ends of the ureters resting low in the pelvis toward the end of gestation; defective nutrition of the ureters with a consequent loss of elasticity and resisting power; pre-existing lesion or functional derangement of the ureters.

The prevention of injury to the ureters is of greates importance. The recognition of disease before parturition will ofttimes save much trouble. Free dilatation of the cervix, before rupture, insures comparative safety.

Treatment must be in a great measure expectant. Surgical treatment of these affections is not in a highly developed state.

Incontinence of Urine Due to Malposition of the Ureter, by Dr. F. H. Davenport, of Boston, was the report of a case in which a woman, twenty nine years of age, had suffered with incontinence of urine all her life. A careful examination showed that one ureter emptied near the meatus instead of at the usual place. An operation was performed, which had for its object the establishment of an opening into the bladder, by transposition of the ureter. The operation was not a complete success, but a second operation was thoroughly satisfactory.

Dr. W. W. Jaggard, of Chicago, thought that injuries to the ureters were quite common during pregnancy, but not common during labor, during which the bladder is drawn up and becomes an abdominal viscus, and the ureters are not exposed to pressure from the head of the child, and that they are rarely injured by the dilatation of the cervix or use of the forceps before the engagement of the head. Compression or dilatation of the ureters has been recognized as a principal causative element in eclampsia, the speaker having seen one such case.

Among the specially operative causes of injury to the ureters during pregnancy he mentioned increased abdominal tension, presence of small ureteral calculi, calcareous pyelitis, having seen two cases where calculi were the probable cause of a dilated ureter. He considered palpation of the ureters during the puerperium as an unnecessary and extremely hazardous proceeding.

Dr. A. W. Johnstone, of Cincinnati, related a fatal case of injury to the ureter following a laparatomy for ovarian cyst in which furious mania was developed within forty eight hours. Where the ureter passed over the pelvic brim it was pressed upon by the tumor, developing purulent inflammation in the ureter, the kidney also being disorganized. Many cases of mania following laparotomy he believes to be due to some such condition as this.

General tuberculosis is a frequent condition of the ureters. A case was mentioned where the bladder, ureters, and kidneys were found studded with miliary tuberculosis.

Dr. Henry T. Byford, of Chicago, believed that uræmic convulsions due to ureteral injury was a frequent cause of death in pelvic disease, though many times death was attributed by the general practitioner to the primary pelvic disease which caused the ureteral trouble. He considered catheterization of the ureter difficult, but quite possible to perform.

Is the Mortality after Gynecological Operations Affected by Climatic Influences? by Dr. Henry C. Coe, of New York.—The writer, after much search and inquiry, had been led to believe that climatic change or season had nothing to do with mortality after gynecological operation. His conclusions were based on extended hospital and private practice, occurring in his own experience and that of others.

Cephalhæmatoma.—Dr. Howard A. Kelly, of Baltimore, read a paper with the above title. The writer stated that this affection is rarely recognized by the general practitioner. It occurs once in about every two hundred and fifty obstetric cases and runs a well-defined course. The following is a brief description of the lesion: Cephalhæmatoma is a circumscribed effusion of blood between the periosteum and one of the flat cranial bones, appearing usually the day after birth, and gradually increasing in size until it forms a tense rounded or ovoid prominent swelling. Its commonest seat is over one or both parietal bones, but it never crosses a suture. The skin over the tumor remains movable and unaltered in appearance, and the tumor itself is not painful nor does it de-

crease in size upon pressure. As a rule, it gradually disappears by absorption in two or three weeks. One more important diagnostic sign is the existence of a circumferential bony wall, which can be distinctly felt and which gives one an impression of a depressed fracture. The collection of blood may be absorbed or it may undergo suppuration. It is wise to wait two or three weeks, and, if absorption does not take place, incise the tumor, empty it, and use antiseptic dressings.

DR. W. W. JAGGARD, of Chicago, believes external cephalhæmatoma occurs in many labors, attracts, practically, no attention, and is healed spontaneously. The internal variety frequently causes strabismus and death. He thinks they always occur from injury during labor, from the stretching downward of the periosteum and rupture of its vessels, or approximation of the bones of the fœtal head by the forceps. In the aftercoming head and transverse presentations it is nearly as frequent as when the vertex presents.

DR. FREDERICKS, of Buffalo, reported two fatal cases of cephalhæmatoma, the children dying of convulsions, and a third case, in which the tumor at the end of six weeks had entirely disappeared.

DR. KELLY was sure these tumors were not of traumatic origin during labor, and were most frequently observed after easy and simple labors. He believes they originate from some predisposing cause, as they have been detected on the child's head before birth, on the head of a six months' fœtus, and in one case on the head of a child born by Cæsarean section.

Drainage after Laparotomy, by DR. THOMAS A. ASHBY, of Baltimore.—The writer stated that two accidental experiences had led him to adopt drainage after laparotomy. He believes that this method is the safest and surest, that it reduces the temperature, the tympanites and the gastric disturbances. He recommended that the abdominal cavity be washed out every four or six hours, and that the glass tube be left *in situ* for two or three days, and, afterward, a rubber tube made to replace it.

DR. A. PALMER DUDLEY, of New York, said, out of a series of 79 abdominal sections 69 were made without any drainage-tube, and without a death, although there was a large quantity of fluid in many of them. He would only use the drainage-tube under two conditions—where there is general peritonitis and hemorrhage is suspected, and where the peritoneum is congested from a recent peritonitis and bleeds if irritated with a sponge. The proper toilet of the peritoneal cavity before closing the abdomen will, under all other conditions, give better results. When life is endangered by grave septic inflammation in the pelvic cavity, the drainage-tube is useless, soon becoming walled in by the collection of lymph around it. The dangers of using it are from intestinal adhesions, fecal fistula, and occasional hernia. He believes the intestinal tract is the best drainage tube, and by giving saline cathartics just before operation it affords ample drainage, especially if there be intestinal fistula. He uses the catgut suture.

DR. E. C. DUDLEY, of Chicago, believed the system of drainage devised by Michaelis, of packing the area to be drained with iodoform gauze, was the best in all bad cases where there was a large surface to be drained, and that the frequent mistake was in removing the gauze too soon.

DR. M. D. MANN, of Buffalo, never used the drainage-tube where it was possible to do without it, and always felt uneasy while it was in. He would reverse the rule, "When you are in doubt, drain," and say, "When you are in doubt, wait." Don't close the abdomen too quickly; wash out the cavity with hot water, and frequently the hemorrhage will cease and the abdomen can be closed without drainage. He believes in drainage by the intestines and general system, and by starving his patients for forty-eight hours deprives the system of fluids and makes a great call on the lymphatics, which will take up the effused serum from the abdomen better than any drainage-tube.

THIRD DAY, THURSDAY, SEPTEMBER 18TH.

The Comparative Value of the Biniodide and the Bichloride of Mercury as Surgical Antiseptics, by DR. CHARLES JEWETT, of Brooklyn.—The biniodide of mercury, if used in proper concentration, is as potent in its germicidal properties as the bichloride. It is less unstable as a chemical compound, is more agreeable to the operator, and it is less toxic. Experiments made at the Hoagland laboratory justified the following conclusions: 1. In equal concentration the biniodide is slightly inferior to the bichloride in germicidal power. 2. The difference in the efficacy of a 1 to 1,000 and a 1 to 2,000 bichloride solution is insignificant. 3. The activity of a 1 to 2,000 biniodide solution is materially greater than that of a 1 to 4,000 solution. 4. For equal potency as a sterilizing agent the biniodide should be used in a more concentrated solution, say 1 to 1,800. The use of alcohol before the sterilizing solution, by its hygroscopic action, gives a better result.

DRS. W. L. RICHARDSON and A. D. SINCLAIR, of Boston, presented a tabulated report of measurements of the uterine cavity after childbirth.

A Report of My Recent Experience in Restoring Lacerations of the Sphincter Ani by the Flap-Splitting Process.—DR. HORACE TRACEY HANKS, of New York, read a paper on the above subject. The many slightly different operations for restoring lacerations of the perineum have been followed by fairly good results when performed by wise surgeons. The after-treatment of keeping the bowels open for ten days, as recommended by the writer, offers a decided advantage. Tait's operation is the best, and it is the most quickly and most easily performed.

Dr. Hanks cited five successive cases in which the results were perfect. He has modified Tait's operation in some respects, and the following is the method of procedure: The bowels must be moved freely for several days before the operation, and an enema given the morning before operating; the patient is put in the lithotomy position, and the vagina and rectum washed out with a 1 to 4,000 bichloride solution; the upper rectal pouch is filled with cotton balls which have been soaked in an antiseptic solution. The first incision is made just below the torn sphincter, on the patient's left, and the rectum is split from the vagina, from the sphincter up to the angle of the tear in the recto-vaginal septum, and it is then split at the angle for fully half an inch. These steps are repeated on the opposite side. After the parts have been properly irrigated, the vertical incisions are made, and the tissues under the triangular flaps dissected. The sutures are then put in place, beginning below the level of the anus. The bowels must be kept freely open from the second day. The sutures may be removed after ten or twelve days.

DR. E. C. DUDLEY believed no particular operation could be laid down for all cases. He considered it most important to restore the rectal side of the rent. He does not believe the size of the perineal body has so much to do with its efficacy as its location. If it is small and located well up, hugging the pubes, it is all right, but if it be located down toward the tip of the coccyx and relaxed, be it ever so large, it will not perform its functions, and operation on the vaginal outlet is quite as important as if the perineal body had been lacerated.

DR. POLK, of New York, thought the most important factor was the levator ani muscle, which if it is not relaxed and is well up near the pubic bone pulls the posterior wall of the vagina with it, which consequently catches the pelvic pressure.

DR. DUDLEY, of Chicago, modified Emmet's method of suturing, and instead of placing all the sutures at one time and tying them afterward, he tied each suture as it was introduced and made upward traction on the free ends, thus bringing the perineum well up against the pubic bone.

Laparotomy for Intrapelvic Pain. — A paper with the above title was read by DR. THOMAS A. ASHBY, of Baltimore. Intrapelvic pain is associated with a number of intrapelvic conditions of structural, inflammatory, and neuralgic origin. The severity of the pain bears no appreciable relation to the magnitude of the intrapelvic condition. Pain, as a symptom, may be considered to stand alone, and not to depend upon lesions which can be recognized by the usual methods of diagnosis. Many cases of ovarian neuralgia cannot be cured before the menopause, unless operation be resorted to. Palliative treatment is useless, and laparotomy is warranted. In addition to neuralgia, there is a distinct class of lesions which involve the pelvic organs, and produce intrapelvic pain of a severe character. These lesions cannot be recognized, except by an exploratory operation. Minor displacements, chronic inflammations, and vascular disturbances may be classed among these. The surgeon is at fault if he fails to resort to operation where no other method of treatment offers any hope of giving relief or of making a diagnosis.

DR. HOWARD KELLY strongly condemned the performing of laparotomy for pain, the admission of which would lead to the practice of former years, of performing laparotomy for almost every known disease. He believes oöphoralgia is rarely heard of, the condition which characterizes it generally arising from some other disease of the organ. Ovarian troubles can always be diagnosed by birectal or bivaginal examination under an anæsthetic. Radical measures should not be resorted to until all other forms of treatment have failed.

DR. A. PALMER DUDLEY, of New York, was in favor of laparotomy for the relief of conditions which produced pain after the failure of all other methods of treatment. Vascular disturbance he believed to be the foundation of all pelvic diseases in the female. The pressure of the sigmoid flexure of the colon and the transverse circulation of the kidney upon the ovarian veins sometimes causes varicocele, which has been noticed by Skene, Polk, Lusk, Currier, and Neilson, as well as the speaker. Subacute inflammation and formation of adhesions is also produced by this pressure on the ovarian veins, which can only be broken up by a laparotomy. He reported three cases where, after exhaustive palliative treatment, he had performed laparotomy, drained the cysts found in the ovary, allowed them to refill with blood, and then returned them to the abdominal cavity, with immediate relief of the pain and rapid convalescence.

DR. POLK, thought an exploratory incision entirely justifiable; and that birectal or bivaginal touch would not in all cases reveal the diseased condition of the ovaries. He believed complete amputation of the ovary could be avoided by cutting it open to discover the trouble, then sewing it up and returning it; also that catarrhal salpingitis does not justify amputation.

DR. BYFORD, of Chicago, believed if the ovary is cut with a knife or suture, adhesions would form which might subsequently necessitate its entire removal.

DR. M. D. MANN approved of an exploratory incision as a means of diagnosis but doubted whether minute disease of the ovary could be recognized by a simple incision of the organ, and thought the whole ovary ought to be removed. He was convinced that in many cases the ovaries and tubes have been removed when the trouble was entirely in the ureters.

DR. JOSEPH TABER JOHNSON, of Washington, thought if the adhesions were broken up without taking out the ovary the disease would return, and cited a case confirming his belief. If there is much disease it is better to remove both ovaries than to subject the patient to the dangers of a second operation.

DR. POLK agreed with Dr. Johnson and if there was cystic degeneration to any extent he would not leave the ovary in, but in many cases there are only one or two good-sized cysts and they can be removed without taking out the whole ovary and very few adhesions result, it not being necessary to close the incision in the ovary with sutures, unless to control hemorrhage from the cut ovarian surfaces. He believes adhesions are a matter of no great importance, except for a short time after the operation.

The Society then adjourned, to meet in Washington, the third Tuesday in September, 1891, to take part in the Congress of American Physicians and Surgeons.

Among the social features of the session were luncheons tendered by Dr. Mann, of Buffalo, Dr. Ford, of Utica, and Dr. Stansbury Sutton, of Pittsburg. The Society made an excursion to Niagara Falls, which was followed by a dinner, as guests of the Buffalo Medical Club.

Correspondence.

OUR PARIS LETTER.

(From our Special Correspondent.)

THE CAUSE AND TREATMENT OF SEA-SICKNESS—CEREBRAL SURGERY—DRAINING THE LATERAL VENTRICLE FOR HYDROCEPHALUS—THE TREATMENT OF DIARRHŒA BY LACTIC ACID—RELATIVE ADVANTAGES OF VARIOUS PREPARATIONS OF DIGITALIS—THE RELATIONS OF DIPHTHERIA AND FACIAL ERYSIPELAS—NAPHTHOL IN PURULENT OPHTHALMIA.

PARIS, September 26, 1890.

TILL now sea-sickness has been considered the opprobrium of medicine, as no remedy has as yet been discovered for the relief or cure of this most distressing affection. Various theories have been propounded to explain its nature or pathology, but not much light has been thrown on the subject. Some authors attribute the proximate cause to anæmia of the brain, others to the general commotion of the system, particularly of the stomach and bowels caused by the movements of the ship. One critic facetiously remarked that the only advance that has been made was to give the term sea-sickness a scientific name by calling it "naupathy." Professor Charles Richet, in a letter to the *Progrès Médica'*, states that he had employed the sulphate of quinine in a subject who was extremely susceptible to sea-sickness. The result was excellent; everybody on board was sick, but the subject in question felt absolutely nothing. M. Richet compared this fact with what is observed in Menière's disease, the symptoms of which recalled those of sea-sickness, and where the sulphate of quinine often succeeds. The mode of employment recommended by M. Richet is as follows: One gramme of sulphate of quinine in a wafer, to be given every two hours at least, and four hours at most, before embarking. None of the other precautions usually prescribed for such cases, as, for example, the horizontal position, which is always efficacious, should be neglected. Narcotics are of little or no use.

Cerebral surgery continues its audacious performances. According to the *Journal de la Santé*, Dr. Thinar, of Brussels, lately operated on a hydrocephalic child of three years of age. The patient having been put under chloroform, the skull was trephined at its right lateral pariety, when, the cerebral substance being exposed to view, an India-rubber sound was introduced to a depth of five or six centimetres, in order to reach the lateral ventricle. An increased quantity of liquid was produced, and the sound was left in the ventricle in order to permit the continuation of the escape of liquid. This is the first time that an operation of this sort had been attempted in Europe. Practised twice in America, it completely failed on both occasions, which does not prove much in favor of the operation, and is not very hopeful of future success.

At a recent meeting of the Société Médicale des Hôpitaux, Professor Hayem communicated a note on the treatment of diarrhœa by lactic acid. Among adults he has had no failures. He recommends the medicament to be prescribed in doses of from 10 to 15 grammes, in

the form of lemonade, as follows: Lactic acid, from 10 to 15 grammes; syrup of mulberry, 200 grammes; water, 500 grammes; to be drank by half a glass at a time between meals. Lactic acid acts very well in the diarrhœa of typhics and in sporadic diarrhœa. M. Hayem states that he would not hesitate to recommend it as a prophylactic and as a curative against epidemic cholera.

At the Société de Thérapeutique a discussion took place on the relative advantages of the various preparations of digitalis. As regards digitaline Dr. Huchard stated that he was in the habit of prescribing it in one massive dose, that is to say, at one time, for one day only, fifty drops of a solution of one-thousandth of crystallized digitaline. In this he followed the example of Professor Potain, who does not prescribe the medicine in any other form. Dr. Huchard has employed the same preparation for the last two years, and he finds that it has for advantage to be equally dosed and not producing any accident of gastric intolerance. Under the influence of this medication diuresis is promptly augmented; sometimes at the end of the first day, often from the second day, the medium quantity of urine is from three to four litres per day, and it has amounted to six and seven litres. These remarkable results are, therefore, in complete contradiction with those of other authors, who think that digitaline possesses a diuretic action far inferior to infusions of digitalis. Moreover, the crystallized digitaline employed by Dr. Huchard produced the same effects as the other preparations of digitalis on the circulatory system.

The *Journal de la Santé* relates that Dr. Babchinski, a Russian physician, having had his son affected with grave diphtheria, erysipelas of the face suddenly supervened, which was followed by a remarkable change in the state of the patient—the fever fell, the false membranes disappeared, and the patient was cured in a short time. Dr. Babchinski had observed in several other patients a similar improvement taking place after the disappearance of an attack of erysipelas, and in one of them the erysipelas had invaded the leg. These facts suggested to this physician the idea of inoculating a diphtheritic patient with blood taken from a patient affected with erysipelas. Erysipelas declared itself, things passed as in the preceding case, and the child which was inoculated was cured. Subsequently he practised inoculations on other diphtheritic patients with cultures of microbes of erysipelas, cultivated on agar-agar, and constantly the manifestations of diphtheria disappeared. It may be added that, besides the inoculations, the patients had not been submitted to any other special medication whatever, and that in no case did erysipelas present any grave symptom. Dr. Babchinski concludes his note with the following remarks: "If my observations and my experiments are confirmed, this treatment of diphtheria will be easy and certain, and this malady will no longer be dreaded."

Dr. Budin, accoucheur at the Charity Hospital, vaunts the use of naphthol in the treatment of purulent ophthalmia. He states that with naphthol the swelling of the eyelids yields rapidly, the cauterizations need not be practised so frequently, and if the naphthol cannot replace the nitrate of silver, it renders great service as an adjuvant in the treatment of purulent ophthalmia; it is far preferable to boric water. Dr. Budin cites, in his clinical lectures, an observation in which boric water not having produced any amelioration whatever, with naphthol the conjunctivitis, which had lasted a long time, disappeared rapidly. Since the researches of Dr. Budin, the naphthol A, which is twice more antiseptic than the naphthol B, has been adopted with great advantage. The non-alcoholized solution is that employed, and is composed as follows: Naphthol A, 20 centigrammes; distilled water, 1,000 grammes.

Two Drops of Creasote made from beech tar, given with a little water, is said to be a specific for hiccough arising from drunkenness.

HYDROTHERAPY IN EUROPE.

To the Editor of the Medical Record.

Sir: A desire to ascertain the true status of hydrotherapy in Europe, and to observe the practical working of the methods adopted by prominent specialists in this line, has led me to visit the most noted institutions on the Continent.

My gleanings in this important field, which has thus far lain comparatively fallow and uncultivated in our own country, may be of interest to your readers.

Being aware that the best clinical observers in Europe, of whom Nothnagel, Leyden, Semnola, Cantani, Ziemssen, Dujardin-Beaumetz are representatives in their respective countries, constantly advise the application of water as an important therapeutic agent, I was not surprised to discover, upon personal contact with physicians and patients who consult these authorities, and especially the eminent neurologists like Charcot and Erb, that hydrotherapy is almost exclusively relied upon in the treatment of chronic diseases. A patient of Professor Binswanger of Jena, for instance, assured me that with the exception of one powder, his case of neurasthenia was treated exclusively by water. But while there exists a marked unanimity on the subject of *chronic disease*, quite the reverse is the case with regard to *acute diseases*, in which hydrotherapy appears to have lost rather than gained in Germany during the past decennium. A conversation with Professor Fraenkel, during a visit to the magnificent new "Staedtische Krankenhaus zu Urban," in Berlin, furnished a clue to this paradox. "Although as a pupil of Traube," said he, "I learned to value hydrotherapy very highly, I now abstain from baths entirely in fever, because, in Germany, we have come to be opposed to all antipyretics in typhoid fever."

The inference from this assertion would be, that because antipyrine and its congeners have proven faithless to the trust so unscientifically imposed upon them, in not jugulating fevers, and because the cold bath has from the infancy of medicine occupied the position of the chief antipyretic, water must now share the fate of the chemical antipyretics of modern times, and with them be cast into everlasting oblivion. The fallacy of this reasoning is transparent to the reflecting mind.

Antipyrine and its congeners have not only failed as cures of fever, but even when used as symptomatics their effect is, as I have repeatedly argued, detrimental (not so much as heart depressants, but) by interfering with the elimination of excrementitious material from the kidneys, etc., and as Cantani has said (on antipyresis), before the recent International Congress, because they suppress the capacity of a reaction, of which the fever process is a manifestation, and which is a potent factor in the elimination of the disease-producing elements.

That the cold bath is not a good antipyretic I have on several occasions held before our city societies. There is nothing more positively demonstrable than the fact that as a reducer of temperature the cold bath of Brand is far inferior to the lukewarm continuous bath of Riess, and that both are excelled in antithermic effect by a full dose of antipyrine or antifebrine. The reduction of temperature by the cold bath is small, as a rule, in typhoid fever; it is therefore not an antithermic agent in this disease, but a refreshing agent, through reflex action from the periphery upon the nerve-centres, from which the whole machinery of the body receives its tone, its force, its very life.

Indeed Liebermeister has successfully labored to show that the cold bath secondarily actually increases heat production within the body.

We may find in Cantani's late address on antipyresis the answer of an able practical clinician to Professor Fraenkel's erroneous postulate. "We must say (page 17) that an unprejudiced clinical observation may gladly praise the one (hydriatic abstraction of heat) as useful, while it recognizes the other (reduction of heat by chemical antipyretics) as harmful."

From this brief outline it would appear that hydrotherapy in acute disease is now in a transition stage. From this it will emerge as a remedial measure that will endure for ages. This assertion is justified by the facts brought out in the recent discussion of the Société Médicale des Hôpitaux in this city, which supports the views, long striven against here, of the best clinical teachers of Germany—Ziemssen, Struempell, Nothnagel, Senator, Liebermeister, Juergenssen, and others, who said in 1885 (Cong. fuer Int. Med.) that until we can find an anti infectious specific, the cold bath is our best remedy in typhoid fever. But aside from this clinical test we have, in the investigations of Maragliano with the pletysmograph, positive demonstration that the rise of temperature is coincident with a contraction of the peripheral vessels in the skin, which begins even before the rise, and reaches its maximum when the maximum temperature has been attained; and that the lowering of temperature in fever is preceded by a dilatation of the superficial vessels.

These investigations support Bettelheim's and Geigel's discovery that antipyretics always reduce temperature by causing dilatation of the skin-vessels, and thus determining heat-loss. This is a most positive confirmation of the well-known fever theory of Traube, that rise of temperature is a direct consequence of the diminished heat-loss resulting from contraction of the vessels. That Liebermeister erred in the dictum that all heat abstraction from the periphery determines an increased tissue metamorphosis and heat-production within, is proven by the exact experiments of Speck and Loewy in Zunz's laboratory, which demonstrate clearly that this is the case only when action of the muscles is not avoided. These exact investigations are, as Dr. Winternitz told me, with pardonable pride, a complete confirmation of the theory defended by him for twenty-five years, and of the rationality of the basis of his therapeutic teachings.

This is not the place to elaborate a question so pregnant with import to suffering humanity. In the forthcoming work of Professor Winternitz his position will be so clearly demonstrated by exact sphygmographic and other mathematical and chemical tests, made by his very able, earnest, and conscientious assistant, Dr. Pospischl (to whom I am indebted for many courtesies), that hydrotherapy will be placed in a permanent position as the most valuable agent in acute diseases. Dr. Winternitz is not an advocate of prolonged cold baths or of very low temperatures. For more than a quarter of a century he has shown again and again that temperature reduction is not the chief aim of hydriatic fever treatment, but that the reflex effect upon the nerve-centres, upon the heart, etc., also may be produced by cold packs, ablutions, and half baths in which the water is constantly agitated. The profession and the public will be more favorably disposed to this treatment than they have been to the full cold (Brand) bath, whose success has been so completely established by statistical evidence.

While on this subject it may be mentioned that I received a very cordial invitation from Dr. Brand to visit him in Stettin, with the courteous offer to aid me in the pursuit of my studies, and that I visited the Garrison Hospital of Munich, whose *chef*, Dr. A. Vogl, has given the world the most remarkable statistical record in medical history. His barracks for typhoid fever are crudely constructed of wooden pavilions, so completely occupied by large windows that they resemble greenhouses. At the upper end of these long barracks, containing forty beds, stand two zinc bath-tubs, just under two faucets. The patients are carried to the tubs, assistance being plentiful (four nurses to sixteen patients), and placed in a full bath of 65° F., active friction being constantly made to prevent chilling. I have fully described the method in papers read before our societies, and referred to the remarkable result of an average of twenty-seven per cent. mortality during the past ten years. These statistics have been doubted, but I am convinced by inquiry, from the assistant of Dr. Vogl, into the system adopted in these records that they are absolutely reliable. No one knowing Dr. Vogl personally, and recognizing his great personal worth and eminent position, would doubt this fact.

In hydrotherapy in chronic disease there may be said to exist two sects—the Germans resort to wet pack, foot, sitz, and other local baths and douches, while the French, following Fleury, apply douches almost exclusively. Indeed the methods are amusingly characteristic of the people. The German may be readily induced to lie an hour in a wet pack, and, as I have seen them every morning in large numbers at Kaltenlentgeben, sleep soundly in them until aroused for the half-bath. The Frenchman would chafe under such restraint. The German method, as elaborated scientifically by Professer Winternitz, offers every modification of hydrotherapy. But the brevity of the douche treatment is a great advantage. I was impressed during my visit to Duval, the directeur of the Institute Hydrotherapeutique de l'Arc de Triomphe (who, by the way, spoke lovingly of our lamented Marion Sims), by the rapidity of his work. The attendant opened the door, with "Prêt, monsieur," the doctor entered the douche-room; I heard a sound of splashing waters; a muffled, gasping exclamation, and in a moment the doctor again appeared in the office, from which he was again called in five minutes. This process was repeated many times during my visit. Much time is thus gained, a matter of importance to busy men and women, who may be suffering from neurasthenia and other ailments, not withdrawing them from business.

During the past month I have visited a large number of hydrotherapeutic establishments in Germany and France, most of which seemed to be directed by educated medical men, whose courtesy to me I gladly acknowledge.

In connection with this subject it may be of interest to refer to the fact, that since the days of Priessnitz water-cure establishments under the management of laymen have sprung up. Until recently these were not numerous. Now there exists a society of Naturarzt, whose influence upon the public is pronounced and increasing. These men are usually teachers, clergymen, and even ordinary laborers. One institution in Gera which I visited is presided over by a weaver, whose success has enabled him to purchase the building. This man successfully treated one of my relatives for icterus following the *grippe*, the attending physician consenting. Impressed by this intelligent, yet uneducated Naturarzt, I was induced to visit the fountain-head of the "Nature-doctors," the "Von Zimmermann Institute" at Chemnitz. This is an imposing edifice occupying a lofty eminence, which overlooks a lovely valley in the rear and the smoking factory funnels and the distant mountains in front. Surrounded by tastefully laid out gardens a more beautiful sanitarium could not be imagined. It was endowed by a wealthy merchant, in grateful recognition of his recovery from a disease said to have been pronounced incurable by the regular faculty, but which yielded to the water treatment. Impressive as is the exterior of this institute, as well as the domiciliary arrangements, it proved with regard to hydrotherapy a delusion. The apparatus is of the crudest kind, baoly cared for; the attendants appeared to be active but illy informed. One of these told me that he required no thermometer, the hand being a sufficient guide, and that the temperature was of little consequence at any rate. They use raw silk instead of linen for their packs. Still these ignorant men, who are directed by a former army physician (who was absent), obtain such good results in chlorosis, functional nervous diseases, dyspepsia, rheumatism, and gout, that one is inclined to ask himself if such results may accrue from cleanliness, regulation of diet, improved habits, and abstention from medication, how much more might not be attained if the application of these means were guided by skilled and educated hands?

Among these "nature" doctors there are several types. One of these, Pfarrer Kneype, is now attracting almost as large and varied a *clientèle* as did Priessnitz in his day.

His success is the theme of conversation in all circles. His principle of water-cure is that the patient should be compelled to produce his own reaction. Instead of being rubbed dry, the patient is directed to walk until the damp shirt in which he is enveloped is dry. Walking barefoot in the dewy grass is a favorite method of this innovator, who has produced in addition a pharmacopœia of vegetable remedies that would make a Thompsonian eclectic green with envy. The novelty of the treatment, combined with the compulsory out-door exercise, and not a little of the faith cure element, have brought this plain priest, who labors not for gain, much fame.

As I was about to conclude this letter a copy of the Paris edition of the New York *Herald*, September 21st, was handed to me, containing an article, which evinces its paternity from a well-informed medical source, and which furnishes a corroboration of what I have long attempted to impress at home, in connection with the subject of this letter. Speaking of Brand's cold-bath method in acute diseases the writer says: "A certain number of attempts in this direction have been made in Germany, the country of therapeutical audacity and often temerity. The inference to be drawn is that although Brand's method had a hard time in gaining the confidence of physicians in France, it is now giving satisfactory proof of what it can do, and is destined to become the most efficient treatment for the majority of infectious diseases with high temperature and nervous symptoms." This means that it is on the point of entering into common practice, for physicians will appreciate it more and more when they try it regularly and resolutely, without being hampered by preconceived ideas.

SIMON BARUCH, M.D.

PARIS, September 20, 1890.

READY REMEDIES FOR ACCIDENTAL POISONING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: As a large number of cases of poisoning by accident occur in the city and country, due to the selling of dangerous drugs to the laity, I venture to suggest that it would be well to have all druggists' labels so printed that under the name of the poisonous article its antidotes should appear in italics. For example:

POISON.

LAUDANUM.

ANTIDOTES.—*Strong infusion of coffee; arouse patient by shaking; ten-drop doses of tinct. belladonna; emetics.*

The simplest and nearest-at-hand antidotes should be given on the label, and these might be used by the family or friends while waiting for a doctor. "Scraping the ceiling with the fire-shovel," or the "white of egg," may save a valuable life in an emergency if thought of in time.

M. B. C.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 27 to October 4, 1890.

MORRIS, EDWARD R., Assistant Surgeon. Promoted September 17, 1890, to be Assistant Surgeon with rank of Captain, in accordance with the act of June 23, 1874.

CRAMPTON, LOUIS W., Captain and Assistant Surgeon, Fort Sheridan, Ill. Granted leave of absence for one month, to take effect about October 1, 1890. S. O. 80, par. 2, Division of the Missouri, St. Louis, Mo., September 30, 1890.

PHILLIPS, JOHN L., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 164, July 16, 1890, from this office, is extended two months. S. O. 228, par. 3, A. G. O., Washington, D. C., September 29, 1890.

OWENS, W. O., JR., Captain and Assistant Surgeon. In view of the abandonment of Fort Gibson, I. T., to which post he is at present assigned for station, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Fort Sill, Oklahoma Ter., and report to the commanding officer for duty. S. O. 125, Department of the Missouri, St. Louis, Mo., September 27, 1890.

PHILLIPS, J. L., Captain and Assistant Surgeon. In view of the abandonment of Fort Crawford, Col., to which post he is at present assigned for station, is relieved from duty at that post, and will, upon the expiration of his present leave of absence, proceed to Fort Logan, Col., and report to the commanding officer for duty. S. O. 135, par. 2, Department of the Missouri, St. Louis, Mo., September 27, 1890.

TESSON, LOUIS S., Captain and Assistant Surgeon, Fort Sidney, Neb. Granted leave of absence for twenty days, to take effect when his services can be spared by his post commander. S. O. 72, Department of the Platte, Omaha, Neb., September 25, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 4, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	60	8
Scarlet fever	27	1
Cerebro-spinal meningitis	1	4
Measles	45	3
Diphtheria	52	12
Small-pox	0	0
Cholera	0	0
Pertussis	0	0

The Hotel Dieu Four Hundred Years Ago.—In a work by M. Luce, recently published, on "France during the Hundred Years' War," we get a curious picture of the well-known hospital, the Hotel Dieu, of Paris. The history shows the fourteenth century in its struggle against the misery of the poor, and also the private contention, not unfamiliar to our own times, between the surgeons and the nurses of a great hospital. The terrible mortality of the Middle Ages (in which the average duration of life was seventeen years) may be gauged from the fact that in a single year (1368–69) the Hotel Dieu buried over twenty-two thousand of its patients. The number of the sick was, it must be admitted, correspondingly great. The accounts of the prioress of the Hotel Dieu show that no fewer than thirty-five thousand sheets were daily supplied in the wards. Another Paris hospital, during the same year, in addition to its ordinary patients, gave shelter to nearly seventeen thousand pilgrims on their way to St. Michael's Mount, and other shrines. According to the author, if the medical services were slight, there was no lack of shelter; a good bed with clean sheets and six warm blankets, the kind suited to refined women, and such tisane or theriac as the services of the time could furnish, were apparently within the reach of all who needed them.

Tobacco Smoke passed through cotton-wool charged with pyrogallic acid is said to be freed from nicotine.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 16.
Whole No. 1041.

NEW YORK, OCTOBER 18, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE SENSATION OF ITCHING.[1]

BY EDWARD BENNET BRONSON, M.D.,

PROFESSOR OF DERMATOLOGY IN THE NEW YORK POLYCLINIC.

IT is a somewhat remarkable fact that a manifestation of cutaneous irritability so common as itching, and one with which as a symptom we are so familiar, has been almost entirely neglected as an independent subject of study. Of other anomalies of sensation, such as hyperæsthesia, anæsthesia, and pain, we have tolerably clear and definite notions. But who has explained for us the cause and nature of pruritus? What is this disturbance of sensation? To say that it is a form of cutaneous irritation that produces an inclination to scratch (for such is the usual definition), is as much as to tell us that itching is the desire to scratch. We itch to scratch and scratch because we itch. It is clearly a nervous disturbance of some sort; but what produces it and why scratching relieves it are questions which, so far as I know, have never been satisfactorily answered.

Itching, or something closely akin to it, is in all probability common to most if not all animals, though most marked in those that are hairy or feathered. Though often provoked by irritants extraneous to the body, it also is very frequently spontaneous, occurring under apparently healthy conditions, as well as in disease. When in repose an animal will often by various actions or movements, that answer more or less to the act of scratching, betray the fact that it itches, even when the skin is neither diseased nor molested by insects. And in the human subject spontaneous itching is common enough, and it is often only the sense of propriety that represses the inclination to the desired gratification. The child stripped for bed and begging to have his back scratched is more in the state of nature. Let anyone sit quietly for a moment fixing attention upon the skin and the chances are that sooner or later he will become conscious of a slight intrusive irritation at some point, a prickling or picking sensation, and the longer it lasts the more it demands attention. You pass the finger or nail over the irritated point and it is gone. What was it? Was it pain? If all uneasiness is pain, yes. If desire is pain, yes. If the inclination to stretch the limbs, to wink the eyes, to eat is pain, so is this trifling disturbance of sensation, this desire to scratch.

In severe itching, and especially in disease, the feeling becomes more complex. This is evident from the multiplicity of expressions used to describe it—such as "tickling," "prickling," "picking," "creeping," "crawling." But always there goes with it the impression of intrusive contact, together with the longing to scratch. Closely connected with it are other sensations that are secondary and probably entirely independent of the feeling of itching. Such are the smarting, burning, or stinging sensations which only accidentally are coincident with this feeling and are clearly painful sensations. They are not only independent of the pruritus but are distinctly antipathic to it. As soon as the scratching becomes violent enough to produce a painful sensation the itching is, temporarily at least, extinguished. Furthermore, any painful sensation of the skin would most likely be aggravated by scratching. Though pruritus has sometimes been described as a variety or phase of pain their characters are totally dissimilar. The feeling of pruritus always carries with it the suggestion of something extraneous to the body. There is in the sensation an element of objectivity, while in a painful sensation the feeling is purely subjective. In the one there is the consciousness, whether deceived or not, of something outside of self. In the other, one is only conscious of the suffering. One is resentment, with the instinct to repel an attack, an intrusion; the other is a suffering self-consciousness without cognizance of the producing agent. One is a longing desire to resist, the other the passive endurance of penalty.

Though a certain consciousness of the agent may accompany pain it is very different from that in pruritus. One resents a stinging blow, as the lash of a whip. The soldier struck by a spent ball curses the enemy. But there is no consciousness of the presence of a whip in the smarting flesh, nor of an enemy in the aching limb. Cause and effect may be a mile apart; it is only the effect that remains, and of that only is the subject directly conscious. At the first instant of injury the organ of touch is sufficiently involved to give intimation of the locality injured and perhaps something of the quality of the injurious agent, but the sensation of pain *per se* gives no such intimation. It is simply a passive condition. In pruritus, on the other hand, cause and effect are presented to consciousness as one. The consciousness of the object, the irritant, is not an instantaneous intimation, but persists while the itching lasts.

But if puritus is not pain in the ordinary acceptation of the word, is it any more nearly related to the special sense of touch? What are its relations to the so-called special senses on the one hand and to common sensation on the other?

The distinction recognized between common and special sensation is that while the former communicates only impressions of subjective states of the body, the latter imparts knowledge of external things. Through the former we are made aware only of somatic conditions, changes or phenomena that transpire in the *ego;* while through the latter we take cognizance of changes or phenomena in the outside world, the *non ego.* By means of the special senses the presentations to consciousness are such that we are enabled to appreciate the qualities of external objects, and through a series of such presentations to know, to perceive, what the thing producing the sensations is. Such definite and competent sensations, perceptive sensations, exist only in connection with the senses of seeing, hearing, smelling, tasting, and touching. All other sensations, though widely diverse in character among themselves, are little more than varying phases of ease and discomfort, of well being and ill-being, of desire and gratification. Except through association of ideas, through imagination, they have no connection in consciousness with the outside world.

But notwithstanding the fact that the special senses in their present state are so far removed, in respect to the knowledge they yield to consciousness, from common sensation, there doubtless was a period when the distinction did not exist. Their differentiation has been the result of gradual and long-continued processes of evolution. There can be little question that the sensory organs to which the several senses owe their special attributes have all originally developed from simple nerve-endings that

[1] Read before the American Dermatological Association, September 2, 1890.

could give but the vaguest intimations of external objects. At the very beginning there was simply a common sensitive exterior that reacted to the various irritations it encountered in general, and more or less indefinite movements of the protoplasmic mass. Beginning with the protozoa, the protrusion of pseudopodia, as in the rhizopoda, was among the first simple attempts at adaptation. In further progress and by a similar process tentacles and sensitive hairs appeared. Nerve-terminals, at first homogeneous, gradually resolved themselves for division of labor into special organs. From the common sensitive exterior there were separated in the course of time the optic and auditory vesicles with nerve-filaments distributed over their interiors. Over little clefts or depressions in the integument other nerve-filaments became differentiated as the organs of smell and taste; while the common integument, retaining its primitive common sensations, evolved a special sense of touch. The facts of evolution are exactly reflected in the parallel development of the embryo. Out of the ectoderm or outermost germ-layer the organs of special sense are gradually developed and traverse the same general phases of progress, as may be traced in the evolution of the higher creations of the animal kingdom. Both ontogenetically and phylogenetically the simple origin of the organs of sense appears too obvious for dispute. Diverse in their individual characters as well as in their divergent routes of descent, as these organs are, they all converge toward a common source in a general sensitive exterior composed of homogeneous nerves.

The earliest attempts at specialization in this common sensitive exterior could have effected little more than certain modifications of common sensation. To fix the exact period when these primitive modifications began to develop into the special senses, through which the animal is placed in intelligent communication with its environment, is needless, if it were possible. It must in general correspond to that period when the animal's movements first showed indications of purpose. When the amœba comes in contact with a foreign substance the reflex movements that are excited are vague, haphazard, and apparently purposeless. According as the contact occurs, or as the object is presented to it, the animal shrinks away from it, or contracting about it envelops it in its interior, where, should the substance happen to be nutritious, it may be absorbed. The first beginnings of adaptation would naturally be associated with the simple consciousness of contact, a sort of primitive sense of touch. With the first intimation to the animal of a difference between one kind of contact and another we reach the threshold of an objective consciousness and the commencement of perceptive sensation. Partly empirically and partly through natural selection the differentiation of sensations gradually proceeds. The animal now directs its movements with intelligence and purpose. It acquires the ability not only to feel but to perceive. It can select and seek its food, evade or attack its foes, and so gradually is equipped for the struggle for life. Thus as all the sensory organs can be traced to one elementary and homogeneous organ, so all sensations, whether common, special, or perceptive, may be traced to one undifferentiated and elementary sensation, which is common sensation.

In this evolution the impelling force, the directing impulse, has been derived from the two grand principles of life known as the instinct of self-preservation and the instinct of reproduction. To one or the other of these instincts every sensation that arises in the body must be directly or indirectly referred. All sensations, as we have seen, were originally tegumentary. To the common integument must be ascribed the source and potentiality of all sensations. As the result of specialization most of these sensations have been withdrawn from the exterior. What traces of the special senses thus abstracted still persist in the skin may be infinitesimal. That such traces do exist there can be little doubt. At least that the skin is sensible to waves of light has been demonstrated by curious experiments. There still remains to the skin and adjacent mucous orifices a variety of sensations, some of them undifferentiated from the elementary common sensation, others more specialized, including a special sense with perceptive faculties, and finally the most important representative of the reproductive instinct, the aphrodisiac sense.

The objective or perceptive sensations of the skin constitute what is known as the sense of touch or tactile sense. It is the sense by which we apprehend the form, size, location, temperature, and various other qualities of external objects, such as softness, hardness, smoothness, roughness and the like. Many of its attributes it owes to the so-called muscular sense, which in many tactile operations cannot be disassociated from the sense of touch. Moreover, the sense of temperature is really an independent sense, depending actually upon nerve-terminations especially adapted to this purpose. This independence has long been recognized in certain pathological conditions, where one sense has been annulled irrespective of the other, while the recent experiments of Goldscheider have established the fact still more positively. Goldscheider, having first established experimentally that there were certain areas of the skin sensitive to touch and others to temperature, on exercising these areas found microscopically that the innervation was also distinct.

Of the existence of a specialized sense of touch there is no question, nor that it is limited to the skin and adjacent mucous orifices. It is not wholly expressed by pressure sense, for it is incomplete without the accessory muscular and temperature senses. Again, there is a sense of contact, the sense of being touched without perceptible pressure, which has come down from the earliest periods of animal development and which, originally at least, must have been unassociated with tactile sense as we now understand it. Before any consciousness of pressure exists, we are sensible of contact. But something more than this is necessary before there can be anything like sense of form or quality. It is this sense of contact, doubtless, that is the beginning—the threshold of pressure sense.

What is meant, then, by the phrase "sense of touch"? As we have seen, it has a composite character, but though made up of heterogeneous elements the perceptions that flow from it are as definite and as distinctly individualized as those afforded by its sister senses. Nevertheless the term is a vague one and inadequately expresses the sense implied. As we have seen, simply touching an object, simple contact, evokes a sensation or sensations that are only preliminary to the specialized sense. We become conscious of local contact before any quality of the object touched can be distinguished. It is only when the feeling of resistance begins and we are aware of pressure that there can be any appreciation of quality. It may be said that such appreciation is purely an intellectual act; but as the brain would be incapable of appreciating the different tones in sound except for the organ of Corti, or the different colors of the spectrum except for the intervention of the retina, so is it probable that the tactile perceptions would not exist but for the presence of special sense organs in the skin. Such organs have been aptly termed "organs of reinforcement."

The expression, therefore, for the special perceptive sense that belongs to the skin should imply more than mere touch. It is not simply sense of contact, it is not simply feeling, but it is contact plus something else; it is feeling *of* the object as well as simple feeling it. The word palpation better expresses the act whereby the sense is evoked, but etymologically that term would be too restricted. Palpation (from *palpus*, the palm) relates more particularly to manipulation; it is feeling with the hand only. A still better term would be pselaphesia. The Greek ψηλάφησις conveys the idea of feeling for or of a thing, or groping as a blind man or as one in the dark. The Latin *tactus* (from *tango*), on the other hand, signifies only the act of touching as expressed in the words tangent

and contact. The only sense with which the skin is endowed that can properly be called perceptive, and that is worthy of comparison with seeing, hearing, smelling, and tasting, is the sense of pselaphesia. It includes the sense of contact, which, as we have seen, is its most primitive form; its more important element is pressure sense, while the temperature and muscular senses are more or less essential auxiliaries. Common sensation is represented in the integument in its highest positive aspect by the voluptuous sensations, in its lowest negative aspect by pain.

From analogy with its sister senses, the sense of pselaphesia should depend upon a special arrangement and adaptation of the nerve-endings. There should be an organ or "organs of reinforcement." It is scarcely probable that in the skin there is any such highly specialized arrangement as in the eye and ear, and yet we find nervous structures in the skin whose distribution and peculiar development mark them as organs of special importance to cutaneous sensation. What the exact functions of these different structures are is yet uncertain. It is little more than conjecture what special parts are played by the corpuscles of Meissner or those of Pacini, by the terminal bulbs of Krause, the nerve plexuses beneath the epidermis and about the hair-follicles, the tactile cells of Merkel, the free nerve-endings, and, finally, the nerve-distributions to the epidermis, including the remarkable intracellular nerves described by Pfitzner and Unna. Suffice it for the present to say, that from analogy we should expect the most highly developed of these to correspond to the most highly developed sense, to pselaphesia.

To turn from this long, though not purposeless digression, what relation to all these sensory organs of the skin and to their various sensations does the sensation of itching bear?

First of all, the sensations of pruritus must have to do with nerves that are very superficial. There is no reason to believe that of pressure-sense, properly so-called, there is the slightest intimation. If, with the end of my pencil I gently approach a sensitive surface, such, for example, as the cheek or one of the *alæ nasi*, I become aware of a sense of contact the instant the surface is touched. A little pressure and I receive the impression of a smooth, rounded body, and a moment later a slight sensation of coolness. I have a perceptive sensation. If, instead of making any pressure, the pencil be retained just at the point of contact, presently a feeling of annoying irritation is excited. Still more marked is this irritation if, instead of using the pencil the part be lightly touched with a pointed wisp of soft paper or feather. There is elicited directly the sensation of a minute local shock, associated with an instinctive desire to escape from the irritating cause. If the same be repeated the excitement of the part becomes so great that the desire to rub or scratch it becomes almost irresistible. This sensation is pruritus, and it is evidently a nervous disturbance provoked by touching the sensitive surface. What and where is this disturbance, and why should it be apparently so much greater than would be produced by a much more forcible contact?

First, how is it related to pselaphesia? The certain amount of pressure necessary to evoke this special sense implies that the organs on which it depends lie deep in the skin, and are doubtless those highly developed nerve-structures that are situated below the epidermis. It is evident that whatever connection the mere sense of contact may have with these organs it does not bring them actively into play. It is a well-known fact that in certain pathological states apselaphesia may coexist with hyperæsthesia of the surface, *i.e.*, an exaggerated sensitiveness to impressions of contact. Moreover, those areas of the body most highly endowed with special tactile sense, with the sense of pselaphesia, are by no means necessarily the ones most sensitive to contact; nor are they to pruritus. While itching has no apparent connection with the sense of pselaphesia, it cannot be disassociated from the primary sense of touch, the sense of contact. Now, obviously, this sense of contact should pertain to those nerve-endings but slightly differentiated and those most superficial. Such nerves exist in abundance in the epidermis.

While I can present no absolute proof of the proposition, I believe there is sufficient evidence to locate the essential seat of pruritus in the epidermis. Itching is evoked by such irritants as act upon this tissue much more uniformly than by those that act on the derma. We have seen how it may be excited by external irritants that barely touch the surface without the least intimation of a pressure-sense. The itching that is commonly observed in connection with the healing of superficial wounds is not attributable to the granulating process. There is no itching in the granulations of an ulcer. It is only when the part begins to heal and to "skin over" that the itching begins. It is a symptom of keratoplasia, not of dermatoplasia. In those cutaneous diseases also that more especially affect the derma, itching is present only exceptionally. In the erythematous, erysipelatous, and phlegmonous inflammations the sensations are of a smarting, burning, or aching character, *i.e.*, painful sensation, and if ever pruritus it is because of secondary implication of the epidermis. Likewise, of papular affections, as, for example, in syphilodermata, that are characterized by infiltrations confined to the corium or papillary body. If itching occur it is due to a similar and accidental implication. On the other hand, the essentially pruriginous affections, such as eczema, pemphigus, scabies, or lichen planus, are those invariably associated with decided trophic changes in the epidermis. In urticaria the implication of the epidermis is not so obvious, but as shown by Unna, urticaria is not primarily or essentially an inflammatory disease. It is often a neurosis and the itching is the primary factor, an irritation reflected to the terminal nerves from the nervous centres. The œdematous effusion that accompanies it, together with the local ischæmia, is doubtless the direct effect of muscular spasm.

However provoked, the sensation of itching is always associated with a presentiment to consciousness as though a foreign body were in contact with the surface. It is that sensation that experience through many stages of animal life has taught is often followed by a prick or a sting, and the inclination to escape the threatened hurt has grown into an animal instinct. The sense of contact at a minute portion of the sensitive surface is immediately interpreted to mean a miniature attack that must be repelled. If no attack has really been made, but only the threat, the intimation, then the excitement should disappear without returning the moment the cause producing the sense of contact is withdrawn. But it is the peculiarity of itching that it persists in spite of such withdrawal, and is only relieved by the act of scratching. It seems as though the contact, or whatever the change may be that gives rise to the irritation, produces a molecular commotion in the nerves that goes on like the jangling of an electric bell, with a continuance of the sensation until such time as the surcharge of nervous energy is released. In pselaphesia the nerve-force, or the molecular vibrations excited by the impact, is directly transmuted into some intelligent form of activity and the accumulation of nerve excitation—the nervous engorgement—does not occur. The circuit is complete with no point of resistance intervening to create obstruction, and so commotion.

With regard to the sensations of pain, the view was maintained by Funke[1] that they passed into the gray tracts of the spinal cord, where their further progress was arrested; while tactile sensations (the sensations of pselaphesia) traverse the less resisting white tracts and thence passed directly to the brain. Whether this explanation would apply also to the sensation of itching, whether the obstruc-

[1] See in Hermann's Physiologie (1879, iii., 2). Physiologie der Hautempfindungen und der Gemeingefühle.

tion that produces it is the same as for painful sensations, is a question that can neither be affirmed nor denied. It may be that the same process which produces what is called pain when proceeding from nerves deeply seated becomes itching if it starts from the nerves of the epidermis. Or, on the other hand, it might be alleged that the only difference lies in the amount or severity of the irritation, the nerves involved being the same. There are reasons, however, for believing that the epidermic nerves are not susceptible to pain. If with a knife we gradually pare away the epidermis, or if we thrust a fine needle through it, no pain is produced until it reaches the papillary body—until it "goes to the quick," as the common phrase is. But it may be objected that neither does this cause itching. The explanation is easy: An essential condition to the production of pruritus is the uncertainty, the vague and indefinite character of the sensation. The impression that the knife or needle produces as it forces its way through or between the cells of the epidermis is one which offers a clear and interpretable presentment to the sensorium, the sensation undergoes immediate transmutation into other forms of nerve-activity, thus obviating the accumulation or stasis of nerve-force. It is a definite and perceptive sensation, which doubtless calls into play the special organs of pselaphesia that may serve to turn the course of the molecular vibrations into the direct channels of the spinal cord. *A priori* reasons for differentiating pain from pruritus have been given already. We have seen that they are not only inconsistent with, but antipathic to each other. The means to which the animal instinctively resorts for their relief are distinctly opposed to each other. While pain demands rest, pruritus incites to action. It is also probable that they engage distinct elements of the nervous system.

The reflex muscular movements excited by itching doubtless had for their object originally the expulsion of a foreign body, often an insect. Such movements are frequently spontaneous and more or less unconscious. Analogous responsive muscular movements are seen in sternutation and the act of coughing. The tickling sensations of the nasal or laryngeal mucous membranes which are their provocation correspond very closely to cutaneous itching. But the relief afforded by sneezing is not wholly explained by the expulsion of the irritating substance, but, partly, by the fact that the effort affords an avenue of escape for the retained nerve-force, a means for the transmutation of this force into muscular energy. In those animals in which the platysma myoides is more highly developed than in man, as in the horse and bovine genera, a certain relief may be afforded to pruritic sensation through its energetic contractions, which is not wholly due to expulsion of the insect or whatever else may have caused the sensation. The same tendency to dissipate pruritic irritation through liberation of muscular force is evinced in the cutis anserina as well as in the hypertrophy of the arrectores pili muscles observed in many pruriginous diseases. May it not be that the changes in urticaria are the consequence of misdirected and ineffectual efforts of the cutaneous muscles to expel an irritant that produces on the sensorium the counterfeit presentment of some tangible body, as it were an offensive insect?

With regard to the effect of scratching in relieving itching, it is analogous to that produced by muscular exertion. Both cause a deflection of the pruritic irritation into other and freer channels. In the action of scratching there is substituted a decided and definite sensation for one that is simply vague and incomplete. It is the substitution of an effective energy for an ineffectual vexation.

Thus we arrive at something like a rational explanation of what itching is, why the sensation is attended with greater perturbation than are sensations produced by more tangible and appreciable contacts, and, finally, why it is relieved by scratching. Inasmuch as the presentations it yields to consciousness are vague and indefinite, it is closely related to common sensation, but inasmuch as it contains the glimmerings of an objective sense it is just one stage removed from it. It concerns those primitive nerves of contact out of which originally were developed the organs of special sense. It disturbs sensibility that was the precursor of, and doubtless is preliminary to, the sense of pselaphesia. Inasmuch as it concerns a sense of touch, it might be characterized as a paræsthesia of tactile sense; but regarding it more particularly as a disturbance due to interference with, to obstruction of, sensation, a condition in which there is vexation and annoyance of consciousness through the very indefiniteness and uncertainty of the sensations, the word paræsthesia does not express enough. Unfortunately, a term that most fitly expresses this condition has been already appropriated. Charcot has given the name "dysæsthesia" to a form of hyperæsthesia or paræsthesia occurring in myelitis, in which slight irritations of the surface, such as pinching, or the application of cold, are directly followed by painful vibratory sensations coursing up and down the region irritated, and often appearing symmetrically on the other side of the body, and that continue for a considerable time after the irritant has been withdrawn. In some respects, the dysæsthesia of Charcot corresponds to the phenomena of itching. At all events, the term employed is, etymologically at least, as appropriate to pruritus as to the painful sensations just described.

To explain in detail, or even enumerate all the different phases of itching would be impossible. While some of them are associated with pathological changes in the epidermis incident to certain cutaneous inflammations, others have their source more deeply situated and are referable to the nerve-centres. To the latter belong the form of neurosis of which pruritus is at the same time the symptom and sole appellation. Still other sources are doubtless to be found associated with apparently normal physiological conditions. It would seem as if a certain amount of scratching were, under some circumstances, salutary and requisite for an animal's integument, and that the sensation of itching were the necessary incitement. It would facilitate the fall of deciduous hairs, it would promote the normal exfoliation of the cuticle, which, under certain conditions, may not separate rapidly enough to permit the upward growth and expansion of the prickle-cells of the rete. It would tend to dislodge accumulations in the crypts of the skin, the sweat, and sebaceous follicles. While these represent the most obvious sources of itching, or provocations for scratching, there is another factor of which hitherto but little account has been taken.

Both the English words itch and itching and the Latin prurio and pruritus, in their secondary significations convey the idea of a longing, teasing desire. It is apparent in such expressions as, "the itch for gain," "the itch for praise," "the itch for scribbling;" while pruritus was commonly used by the Latins as a synonym for lascivious ness. There is an element of desire in the sensations of itching, and it is not improbable that the common, more or less definite recognition of this element is accountable for the derived or secondary meanings just alluded to. By desire in this connection something more is meant than merely the inclination to brush or scratch away a foreign body of which the sensation is apparently an intimation. It is, rather, a kind of desire closely akin to a lustful feeling, and one that sometimes makes scratching veritably a sensual indulgence. When pruritus reaches a certain degree of intensity, the subject is not content with that moderate amount of scratching that would ordinarily create a sufficient diversion to give relief, but there is a disposition to attack the itching surface with a vehemence that amounts to passion. Observe the motions of a dog when scratching. Sometimes its violent movements and muscular exertions betray an agitation that is not unlike the excitement of the sexual orgasm. The very act of scratching appears to evoke a condition of erethism and excitement that is far in excess of the mere pruritic irri-

tation. And in the human subject voluptuous feelings are not infrequently accessories to the sensation of itching. The delight of having one's back scratched is doubtless chiefly due to a longing for a voluptuous gratification that would not exist but for the pruritic titillation. When the scabious Scotchman at "the scratching-post" fervently ejaculates his "God bless the Duke of Argyle!" it is not only the negative satisfaction of relief that he feels, nor that combined with clannish loyalty, but his sensations include an element of positive enjoyment, he is having the pleasures of a gratified sense.

Recognizing this peculiar element of desire in pruritus, the sexual excitement and depraving tendencies that are so commonly associated with pruritus genitalium are most easily explained. But it is not so surprising that voluptuous sensations should attend itching here where they have their natural seat. Such sensations, however, are not confined to the genitals. They also affect the anus, where, more especially under certain conditions of moral perversion, as well as in association with pruritus ani, the erectile tissue in this situation may become the seat of erethism and in a measure there is excited an aphrodisiac sense. The female nipple also is susceptible of voluptuous sensations. These facts are well known, but the more general distribution of such sensations has received little consideration. They may be concomitants of itching in almost any situation. Persons subject to pruritus of the external auditory meatus are often in the habit of introducing the tip of the finger into the ear and making rapid vibratory movements that do not merely quell the itching but produce sensations that are distinctly voluptuous. The same is true, if in a less degree, of excessive rubbing or scratching of any surface that itches. There must be, however, the provocation of the pruritic irritation. By means of a violent excitation, superinduced by severe scratching, a liberation or discharge of nervous energy takes place accompanied by pleasurable sensations together with the relief of the pruritic irritation. A temporary inertia and rest follows and continues till a renewal of the pruritus provokes another resort to the same method of relief. How is this voluptuous feeling explained?

We have already seen that the only special senses that remained to the common integument after the differentiation of the special senses had taken place were the tactile senses, including the senses of contact, of pressure, and of temperature and the aphrodisiac sense. We saw also that the special sense of pselaphesia, while most highly developed in certain parts, existed to a greater or less degree over the whole surface. The same thing would seem to be true in a measure of aphrodisiac sense. Like the former, the latter is but a higher development of the primitive sense of contact. It has a special organ or instrument—the penis in the male, the clitoris in the female—much as pselaphesia has as its especial organ or instrument the hand; moreover, like the latter sense, though perhaps in a less degree, it is distributed over the entire cutaneous surface. Now sexual excitement has for its incentive the desire to gratify a special appetite, the agent or vehicle of which exists in the cutaneous nerves of contact. A plethora of nervous irritation is generated in the communicating nerve-centres which can only be released by a violent general agitation, an explosion, as it were, of nerve force, which is followed by equilibrium or by a minus state of depression. This is the sexual orgasm. The whole process is in close analogy with what we observe in connection with the relief of the intenser forms of itching by violent scratching. In each case the stored up energy has to do with the nerves of contact or the centres with which they directly communicate. These are the non-conductors that accumulate and retain the charge; the motory apparatus furnishes the channels through which the charge is conducted away in muscular energy.

As to why this process is attended with pleasurable sensations it suffices to say it satisfies a law of being. Gratification of appetite is a condition of life, either of the preservation of life or of the reproduction of life. The sexual, the aphrodisiac appetite can only be secondary to the instinct and appetites of self-preservation. It is the outcome of superabundant vitality. With this surplusage there is engendered the instinct, the impulse to increase, to give life, to make more life. The acme of this impulse is passion. When the increments of vital energy reach high-water mark there is tumultuous overflow, as in the syphon of an invisible spring.

It is not only in the aphrodisiac sense that this impulse is displayed. It actuates many of the highest intellectual and emotional faculties of man. Through it the mind conceives and reproduces; the purest sentiments of love are its offspring. In the control of all the forces, both of the body and of the mind, the reproductive instinct shares with the instinct of self-preservation, the one being the opposite and the complement of the other, as in the conduct of life the spirit of altruism is the opposite and complement of the spirit of egoism. The one prompts to give more than it gets; the other to get more than it gives. The one dissipates energy; the other conserves force. One or the other of these two great instincts provides the mainspring of every human action and is the source of every animal appetite. Their combined product is life. Aphrodisiac sense, the lustful sense of contact, is but a phase, a single factor in the great domain of the instinct of reproduction. The appetite it engenders, the lust of the flesh, at the same time the most ignoble and the most dominating appetite of exuberant animal life, is but a means to the grand end, and when prodigal nature established its chief seat and "sacred" organ, she neglected to withdraw from the outlying regions of the general surface those traces of a congenetic sense that remain in a more or less primitive form, but nevertheless engage corresponding elements of the nervous system.

From the foregoing considerations I believe we are warranted in drawing the following conclusions:

I. That there is a sense of contact independent of the sense of pselaphesia.

II. That this sense of contact is the sense disturbed in pruritus.

III. That it concerns primarily, simple cutaneous nerves or nerve-endings, situated superficially and probably in the epidermis.

IV. That the disturbance in pruritus is of the nature of a dysæsthesia due to accumulated or obstructed nerve excitation with imperfect conduction of the generated force into correlated forms of nervous energy.

V. That scratching relieves itching by directing the excitation into freer channels of sensation, sometimes, especially when severe, substituting for the pruritus either painful or voluptuous sensations.

VI. That the voluptuous sensations that may attend pruritus are a manifestation of a generalized aphrodisiac sense, representing a phase of common sensation that has its source in the sense of contact.

Fatal Results of Lacing among Savages.—We have been told that the vices introduced by white men are depopulating the South Sea Islands, but now it would appear that white women are also responsible for the rapid depopulation of New Zealand. When female missionaries went among the Maoris they insisted that the Maori women should wear clothing. The latter could not be induced to overcome their prejudice against skirts, but discovering that the missionary women wore corsets, they decided that the latter was a garment not wholly devoid of merit. The result is that every Maori woman now goes about her daily work neatly clad in a corset laced as tightly as the united efforts of half a dozen stalwart warriors can lace it. Being unaccustomed to tight-lacing the women are dying off with great rapidity, and the repentant female missionaries now regret that they ever asked their dusky sisters to consider the question of clothing.

REPORT OF A CASE OF EXTIRPATION OF A CALCULUS FROM THE URETER BY THE COMBINED ABDOMINAL-LUMBAR SECTION.[1]

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SEPTEMBER 2, 1889, I was consulted by Mrs. C——, of Columbus, O., who was referred to me by her family physician, Dr. J. F. Baldwin, of that city. The patient was thirty-six years old, mother of five children, the youngest four and one half years of age. She was a slender woman, never weighing more than one hundred and twenty pounds, and at the time of her visit her weight was about one hundred pounds. As a consequence of suffering she became anæmic and very nervous. She had always enjoyed good health previous to the present illness, which dated back to May, 1885, at which time she had an attack of pain that continued twelve hours, which was believed to be renal colic by her physician; when this subsided she felt as well as before, except a tenderness for a day or two over the region of the left kidney, and lower part of the abdomen. The physician was so certain that the cause of the pain was the passage of a stone from the left kidney that he had careful inspection made of the urine for days, expecting to find the calculus. In that he was dissappointed. Ever after the first attack she was subject to sudden and severe paroxysms of pain, varying in frequency from three to six weeks, for a period of about three years. The pain was located in the region of the left kidney at the commencement of each attack, but in an hour or so would diffuse itself over the whole abdomen. These paroxysms were usually of short duration, varying from three to six hours. During the last eighteen months, however, the attacks of pain remained longer, usually ten to twelve hours, and the intervals became shorter, about ten to fourteen days. Each paroxysm for a year or more was preceded by an uneasy sensation in the left side of abdomen for two or three hours before the severe pain came on. After trying morphia without giving the desired relief, her physician used inhalation of chloroform, keeping the patient under its influence until the paroxysm passed off. The husband, who is a very intelligent gentleman, under the direction and advice of his physician, soon learned to administer the chloroform to his wife during these attacks, keeping her under its influence until they passed off. He told me that he administered it frequently during the last eighteen months, giving her enough to make her wholly insensible. He would then remove the chloroform from her face and reapply it again when she showed signs of pain, using it much the same as it is used in labor until the attack passed off. In all of the paroxysms the pain would suddenly disappear just as it does in renal colic when the stone is forced from the ureter into the bladder. The fact that the stone could never be detected only served to make the diagnosis more obscure. The paroxysms were so like renal colic that her physician would not give up his first diagnosis, yet many of the leading symptoms were absent. She never had hæmaturia; repeated examination of the urine failed to reveal red blood-disks, pus, or anything to suggest stone or other serious disease of the kidneys.

During her four and one half years' illness she consulted eight or nine prominent physicians, and only one of them was willing to admit the possibility of a stone as the cause of the pain. I mention this to illustrate the difficulty of diagnosis in the case. Her family physician had studied her so carefully that he believed, that she had a stone in the kidney which was the cause of her illness; and sent her to me for its removal by lumbar incision. The most careful examination of the abdomen failed to give any assistance in diagnosis, and pelvic examination was also negative in its results. A thorough manipulation of the left kidney, which was rendered possible by the exceedingly lax and thin abdominal wall of the patient, did not cause any pain, the kidney could be plainly felt between the two hands and was not enlarged. There was no hæmaturia, pain, or any symptoms suggestive of stone following the examination. After her attacks of pain were over she was perfectly relieved; except an irritable bladder which followed each one, and continued two or three days afterward. The amount of urine passed in twenty-four hours was normal, and was free from casts and albumin.

The family history was negative. After carefully considering the case I was at sea regarding a diagnosis. That the cause of the attacks of pain was located in the abdomen was evident, and that they had some connection with the left kidney or obstruction to the flow of urine through the ureter was reasonably certain, but the cause and location of this obstruction were not apparent. I was strongly inclined to the opinion that there was a stone either in the kidney or ureter, but I was not willing to make a lumbar incision when the diagnosis was so uncertain. If I should do so I would be subjecting the patient to the operation without much hope of relieving her. I therefore advised an abdominal section for diagnostic purposes, determined to be governed by what it revealed. If I detected a stone in the kidney, to remove the stone by a separate incision through the loin. I was encouraged to perform this novel operation by the confidence I possessed that a simple exploration of the peritoneal cavity was free from serious risk, and that the exploration would settle the question of diagnosis without a possibility of doubt—the very question which had been the bone of contention by the many distinguished consulting physicians preceding me. If in the exploration I should find a stone in the kidney its extraction would not be difficult by the lumbar incision after the method of Thornton. By this method we are able to grasp the kidney with the hand inside of the abdominal cavity, and hold it firmly against the loin in the most favorable position for reaching and removing the stone by the lumbar incision. These were not the only advantages to be gained by abdominal section in this case, as will be made apparent later in its history.

The patient was admitted to my "Home" for operation, which was performed September 4, 1889, at eleven o'clock. At ten A.M. the patient told me if I would wait a couple of hours I would see her in one of her paroxysms of pain, for she was certain one was coming on. At eleven o'clock she was anæsthetized by Dr. C. B. Van Meter, and with the assistance of Dr. Samuel Zurmehly, and in the presence of Drs. J. F. Baldwin and C. A. L. Reed the operation was performed. After the patient was put upon the table, she being then under the influence of chloroform, in palpating the abdomen I was surprised to find a small tumor, which appeared to be the size of a pint cup, in the region of the left kidney. I was certain that this did not exist the day before, and could not account for its presence now. I first made median abdominal section, four inches in length, and introducing my hand into the abdominal cavity I at once passed my hand to the left side and found an elongated, exceedingly thin-walled cyst, somewhat larger than the closed hand. Above this I could outline the kidney, which appeared of normal size. At the lower end of the cyst there was a groove in it, and the end overlapped its posterior attachment. In this groove I passed my finger and could feel a stone some three or more inches below the kidney.

The diagnosis was perfectly clear to me now. I had to deal with an impacted stone in the ureter. The left hand was not taken out of the abdominal cavity until the stone was removed. As the kidney appeared healthy I did not want to sacrifice it. I therefore made the lumbar incision as planned before commencing the operation for the removal of a stone from the kidney. After cut-

[1] Read at the annual meeting of the American Association of Obstetricians and Gynecologists, Philadelphia, September, 1890.

ting down to the kidney it was fixed with the left hand and incised, making an incision large enough to admit the finger. At once there was a gush of about one pint of urine. The cyst in the abdomen had now disappeared, leaving the kidney in its normal position. I could now feel the stone about two and one-half inches below the pelvis of the kidney, in place of three and one-half as it appeared before the kidney was incised. The most difficult part of the operation yet remained, that of the removal of the stone, which proved to be an exceedingly difficult task. With a pair of forceps introduced through the lumbar incision guided and aided by the hand inside of the abdominal cavity, several attempts were made to dislodge and remove the stone. It could not be grasped in the bite of the forceps without at the same time including the surrounding tissues, as could be very easily determined by the hand inside of the abdomen. Knowing as we did the exceeding thinness of the pelvis and ureter forming the collapsed sac we were very careful in our manipulation to avoid injuring that. After convincing myself that it was impossible to remove the stone through the lumbar incision without more room, and finding that I could push the stone with the ureter up toward the kidney to a limited extent, I decided to lay the kidney freely open, which I did along the convex border, leaving about half an inch of kidney tissue at either end of the organ unincised, with the intention of first removing the stone, and later the kidney if the hemorrhage could not be controlled. The kidney wound was held aside by retractors in the hands of the assistants, and after a tedious effort by invaginating the sac with the hand inside I was able to reach the stone with the handle of the scalpel and peel the tissues from it. The hemorrhage from the kidney was controlled by sponges from hot water. I dressed the wound in the loin by placing a rubber drainage-tube in the kidney. This tube was long enough to reach over the side of the bed to a bottle upon the floor, where the urine was collected from the kidney. The wound was sutured carefully around the drainage-tube. As I was not certain that I had not injured the thin sac and thus opened the peritoneal cavity from behind, the very thing I wanted to avoid when I planned the operation, I placed a glass drainage-tube in the abdominal cavity, which was removed in eighteen hours as it was not required. My patient suffered very greatly from the shock, which I attribute partly to the loss of blood. Highest pulse after she rallied was 126 and highest temperature 100.8° F. for one registration only, which was on the following day at three P.M. After that time the temperature varied from 98.5° F. to 99.5° F. After an examination of the stone, which weighed only $3\frac{7}{10}$ grains and measured $\frac{8}{16}$ inch long, $\frac{5}{16}$ inch wide, and $\frac{4}{16}$ inch thick, it was found to have a most peculiar shape, as you will observe from the

specimen here presented to you. The cut is from a photograph taken to show the slot in the stone. It is three and a half times larger than the specimen. It represents a section of a cylinder with a slot cutting one side, parallel with its long axis, to a little past the centre. One end of the stone and in the slot it is blackened from the contact with the urine. This blackened end was presenting toward the dilated portion of the ureter and kidney where it was impacted, with the narrow slot spoken of extending parallel with the ureter, making an opening about the size of the thickness of an ordinary pin, which was quite sufficient to carry off all of the urine from the kidney so long as no mucus or other solid material interfered with this small opening. But if a little mucus or any inflammatory material became deposited over this opening you can readily understand how it would close it as perfectly as a ball-valve. With the escape of urine from the kidney thus prevented we have a very satisfactory explanation of the pain, as well as the cause of the uneasy sensation before the attacks of renal colic, and their sudden termination without the passage of a stone, as well as why I did not detect the cyst the day before the operation. For it is evident that none existed except for a few hours preceding and during the attacks of pain. All of that portion of the ureter above the stone with the pelvis of the kidney would be subjected to dilatation until the pressure was strong enough to press the foreign material through the small opening, when the patient would get the sudden relief as though a stone had passed. Thus it is easily explained how the symptoms were so misleading to her physicians.

The four and one-half years the patient suffered from this malady was quite sufficient to dilate the pelvis and ureter into a great sac, as already described. We have equally as good a reason why the stone was not forced on into the bladder when we examine its shape. With its rough exterior it would be a difficult stone to pass under favorable circumstances, and when it was once impacted, with its long axis corresponding with the long axis of the ureter, the slot gave exit to the urine except when blocked by mucus or débris, and that would pass through before the pressure was long enough continued to have any effect in dislodging or driving the stone along the tube.

The stitches were removed from the abdominal wound on the seventh day. The wound was healed perfectly. On the following day the stitches were removed from the lumbar wound. For eight days the urine passed from the bladder contained small blood-clots, while that from the incised kidney remained clear.

A very interesting fact was observed in the secreting power of the incised kidney in comparison with the other organ. The drainage-tube must have been placed in such a manner as to drain nearly or quite all of the urine from the incised kidney into the bottle. For each eight ounces of urine passed from the bladder there would be about six and one half or seven ounces deposited in the bottle. It appeared that the incision in the kidney did not materially interfere with its secreting power. On the eighth day I removed the drainage-tube from the kidney wound. For four days after that it appeared as though all of the urine from the left kidney passed through the sinus. After the twelfth day only a small quantity escaped occasionally. This gradually diminished until the sixteenth day and on the twenty-first day the wound was perfectly healed. On the thirty-sixth day she went home in perfect health and has remained so to this day.

So far as I have been able to determine I cannot find a case of removal of a calculus from the ureter by the combined abdominal-lumbar operation, and but four cases of removal of a stone from the ureter by any other procedure. I find the report of a case by Dr. Cullingworth in the "Transactions" of the Pathological Society of London, 1884 and 1885, vol. xxxvi., page 278, of abdominal section and removal of stone from the ureter near the bladder; patient died fourth day. Dr. Terrey's case in which he was able to remove a stone from the ureter near the kidney by the lumbar incision only; patient recovered. The case is recorded in the *American Journal of the Medical Sciences*, vol. 97, page 579. A case by Dr. Berg, in *Centralblatt für Gynakology*, January 28, 1890. A female, sick fifteen years, who had passed about twenty small calculi. Temporary relief followed and then very severe dysuria set in. By aid of the sound, stone in the bladder was detected. The urethra was dilated, the finger introduced, and it was found that a calculus was impacted in the right ureter, the point projecting into the bladder; the bladder was opened from the vagina and the stone extracted without difficulty. And a case by Dr. A. T. Cobot, reported in the *Boston Medical and Surgical Journal*, September 11, 1890, in which he removed a stone from

the ureter two inches below the kidney by the lumbar section only; patient recovered. These cases are so different from my case that they need not be considered so far as the operative procedure is concerned. The case of Dr. Cullingworth would probably have recovered if he had at the same time extirpated the kidney on the affected side, that of Dr. Terrey was no more serious than that of removal of a stone from the kidney by the lumbar incision, while that of Berg is so different from any of the others that it has hardly no bearing upon them at all, and is only mentioned from the fact that it was a case of removal of stone from the ureter.

The case is an interesting one: 1st. On account of the great difficulty of a correct diagnosis before abdominal exploration. 2d. The ease with which a correct diagnosis was made after abdominal exploration in this heretofore troublesome and obscure case. 3d. If the case had been operated upon by the lumbar incision only, a correct diagnosis could not have been made, neither could the stone have been removed, by that method; and the patient would have recovered with a fistulous opening in the loin. 4th. It illustrates in a clear and concise manner the possibilites of the combined method of operating for extraction of calculi from the ureter.

ARISTOL IN AFFECTIONS OF THE SKIN.

By D. F. KINNIER, M.D.,

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ALTHOUGH aristol has been before the profession but a comparatively short period of time favorable results which quite confirm those recorded by Eichhoff have been reported. It is in the treatment of cutaneous diseases that aristol has been most largely used. Aristol is a new iodine derivative of thymol, and is made by the addition of a solution of iodine in iodide of potassium to a soda solution of thymol. It is inodorous and supposed to be a non-toxic, antiseptic remedy. Aristol is of a yellowish-brown color, decomposing on exposure to light, and should be kept in opaque bottles. It is insoluble in water and alcohol, except in excess; it is also insoluble in glycerine; it is readily soluble in ether, chloroform, and the fatty oils. Olive oil is generally used when an oil is desired. I have used aristol in several cases, in most of which this drug acted very well; in a few cases its use was not beneficial. I shall record the more interesting ones:

CASE I. *Lupus Erythematosus.* — A. F——, aged twenty-eight, female. Eruption appeared several years ago, first upon the scalp in the form of disseminated vesicles, which, gradually enlarging, formed blebs filled with lymph-like fluid. Later, ulcerations developed which healed under proper treatment. About six months ago livid macules appeared on the arms, some of which ulcerated. There is at present an irregular and ragged ulceration on each arm, of moderate size, with reddened base, secreting a thick yellowish pus and emitting a foul odor. After the crusts were removed, a foul ulcerated surface presented which was dusted with aristol several times daily. The good effect of the drug was noticed in a few days, the granulations becoming healthier and more luxuriant. Later aristol-lanolin ointment (ten per cent.) was applied thrice daily and the ulcerated surfaces healed in two weeks, the cicatrix which was formed being quite flexible. The aristol did not produce any irritation or disagreeable symptoms.

CASE II. *Lupus Exulcerans Faciei.*—G. H——, aged thirty, male. Has suffered from a small ulcerating lupus of the face for two years. He stated that the disease was very slow in its extension, and I accordingly adopted palliative and expectant treatment. After the crusts were removed a foul, ulcerating surface with lupus nodules was to be seen. Aristol in powder was applied for the first few days with good effect. The case is doing well under aristol ointment applied three times a day.

CASE III. *Sclerous Lupus.*—M. D——, aged thirty-five, male. Disease confined to fingers and hands. Aristol was applied in the form of powder, solution, and ointment. This treatment was continued for several days without producing any good effect on the disease. As this form of lupus is not frequently met with, a few remarks may be of importance. This is the *lupus sclereux* of French writers. Other names applied to it are *lupus verruqueuse*, *lupus verruqueux*, and *lupus verrucosus.*

Sclerous lupus may develop on any part of the body, but Vidal states that this variety of lupus is most frequently observed on the fingers, hands, toes, and feet. McCall Anderson states that its most common sites are upon the nose, cheeks, and ears. According to Vidal, sclerous lupus may develop primarily or it may be observed as a secondary phase of the transformation of a primary tubercular lupus. That the lesion is of a lupous nature is shown by the formation in the cicatrix of small, yellowish, translucent tubercles during the process of healing. Vidal, who has made sections of the infiltrated tissue in sclerous lupus, finds a superficial papillomatous layer simulating epithelioma, and constituted by exuberant epidermic proliferation; a middle layer of sclerous tissue; a deep layer in which were lupus tubercles with all their histological characteristics. According to the statistics of Dr. Vidal, this form of lupus occurs about once in eighteen cases, and more frequently in men than in women, while the commoner forms of lupus are more frequent in females.

After a thorough trial of aristol I had recourse to scraping, and with good results. The curette was used whenever any lupus tubercles were observed in the cicatrix. After scraping, aristol ointment was applied. This is the only case of sclerous lupus in which I had an opportunity of using aristol, and from my experience with it I do not think the drug will find favor in the treatment of this form of lupus. There is another form of sclerous lupus where the tubercles are superficial, subepidermic, and visible to the naked eye, presenting an indurated base and involving the entire thickness of the derma and subcutaneous cellular tissues.

I do not think aristol would produce beneficial results if used in this form, but that is no reason why its use should be deprecated in the treatment of lupus. This latter variety of sclerous lupus I have seen in Vidal's clinic I think more frequently than the first-named variety of sclerous lupus.

CASE IV. *Ulcus Varicosum.*—M. J——, aged forty-five, female. Has had varicose condition of veins of legs for several years. Has medium sized ulcer on inner side of right leg just above malleolus, surrounding tissues eczematous and tender. Aristol in powder and as ointment was used and the ulcer healed in two weeks. The eczematous condition was cured before the ulcer.

CASE V. *Psoriasis Vulgaris.*—J. P——, aged twenty-five, male. Greater part of body covered with typical psoriasis patches, those on knees and elbows appeared to be chronic in character. Aristol ointment was applied and the patches disappeared in ten days, excepting those on the knees and elbows, which were relieved in two weeks. No internal treatment was prescribed, so that the results obtained were entirely due to the use of aristol.

CASE VI. *Tinea Versicolor.*—A. E——, aged twenty, female. Large and irregular patches over chest and several isolated patches on the back of the patient. An ether solution of aristol cured the patient in a few days.

CASE VII. *Erythema Intertrigo.*—A. G——, aged nine months, male. Very angry-looking eruption in the groins. Dusted with aristol and powdered acacia. Disease cured in four days.

CASE VIII.—This patient was a man with preputial chancroid near the frenum. When first seen the chancroid was touched with nitric acid and dusted with aristol.

July 7th, two days later, chancroids improving. July 9th, small chancroid on glans. July 12th, chancroids spreading; applied nitric acid and aristol. July 15th, chancroids much improved. July 22d, patient discharged cured.

Case IX.—Patient was a man twenty-five years of age. Venereal sores on glans and inner aspect of prepuce. Induration absent. Sores superficial and covered with yellowish pus. Nitric acid and aristol applied. July 12th, three days later, ulcerated surfaces are smaller. July 15th, ulcerations appear to be spreading; pus forming rapidly and is very offensive. Burnt with nitric acid and dusted with aristol. July 20th, improving. July 25th, discharged recovered.

Case X.—The patient is a man thirty years of age. There are two typical soft sores about the size of a small pea in the sulcus coronarius, of ten days' duration. Inguinal glands enlarged. Aristol in powder, solution, and ointment failed in this case to produce any good effect. Iodoform was substituted and the sores healed rapidly.

Aristol is useful in the treatment of ringworm, but there are more effective remedies. Good results were obtained by the use of aristol in cases of purulent otorrhœa with eczema auris. Brocq, who has had a large experience with aristol, recommends it highly as a topical application for ulcer of the leg, and with absolute rest of the limb considers the aristol treatment superior to the iodoform treatment. Aristol in varicose ulcer of the leg brings about a more rapid cicatrix than iodoform. Aristol seems to have a special action in lupus, especially the ulcerating form, and is highly recommended by Brocq and Eichhoff, the latter claiming that it acts as a specific poison to the bacillus tuberculosis of lupus.

Whether aristol will replace iodoform in the treatment of skin disease remains to be decided. Aristol has many points to commend its use over that of iodoform, one in particular being its freedom from odor.

Aristol being an iodine compound, is supposed to produce toxic symptoms, especially if applied over a large surface. This doubt may be dispelled by an examination of the urine in cases where aristol has been used. Repeated examinations of the urine by Castani's method and the starch-paste test failed to give the iodine reaction. Both these tests are delicate and reliable, and iodine, if present in only a trace, will be detected in the urine. In psoriasis aristol seemed to act well, but not so promptly as chrysarobin. There are many objections to the use of chrysarobin in the treatment of psoriasis which do not hold in the case of aristol, such as dermatitis, conjunctivitis, discoloration of the skin and clothing. Aristol is devoid of all the unpleasant symptoms and is worthy of a most careful trial in the treatment of psoriasis.

Dr. Brocq reports the case of a patient suffering from extensive superficial epithelioma of the face, which was almost entirely healed in three weeks by dusting with aristol. Aristol seems to act specially in bringing about cicatrization in obstinate ulcers, ulcerating lupus, and in superficial epithelioma. Cases of rhinitis, moist condylomata, specific ozæna, suppurating gummata, syphilis of the naso-pharynx, have been reported where the use of aristol has been followed by good results.

Eichhoff suggests its use in local tuberculosis and constitutional syphilis by hypodermic administration.

Aristol is worthy of very careful trial.

I have to express my thanks to Dr. J. M. F. Egan and Dr. D. J. Sheehan, of Harlem, who have kindly placed at my disposal several cases, in order to carry out experiments with aristol.

Medical Students in London have been compelled to go through a course of four years' study, hospital attendance, and lectures before being qualified to appear for the final examination. By an order of the General Medical Council of England, issued last month, the term of preparation has been now extended to five years.

CATARACT EXTRACTION.[1]

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I SHALL not attempt a description of the many different kinds of cataracts, nor the various operations which from time to time have been proposed for their relief. Such information may be found accurately and systematically set forth in any of the modern text-books upon the subject. My remarks I shall confine to the consideration of the two methods of extraction—with and without iridectomy. In the premises I will state that I do not essay the position of a partisan of either particular method of operating, and that in this day of extensive and accurate statistics it would be presumptuous to attempt to be dogmatic.

The time has not come, nor will it ever come, when there will be one universal method of extracting cataracts. Anatomical and pathological conditions, to say nothing of individual fancies and prejudices on the part of operators, will preclude the possibility or advisability of the adoption of any one method of procedure. Since, in the use of antiseptics, the former great danger of septic infection of the eye, often destroying the effect of the most skilfully and carefully performed operation, is removed, the prime effort of the advanced operators of the present day is to obtain the maximum results of the object for which the operation is performed. Such a desideratum I would define as the most perfect restoration of vision with the least deformity, attainable, of course, with the least danger.

In the judgment of the prudent, even a moderate and useful degree of success is preferred to the possibility of a more brilliant result attainable by more hazardous methods. In contrasting, therefore, the two operations of the day—the one in which extraction is accomplished with iridectomy, the other without—not only the attainable visual result, and the cosmetic appearance of the eye is to be considered, but the relative degree of danger and the difficulties of performance are important factors.

It goes without saying that, other things being equal, an eye operated upon for cataract without iridectomy possesses more useful and more comfortable vision, and has the additional recommendation of leaving the external appearance of the eye unmutilated, which, in many instances, is a matter of considerable moment. As to the relative degree of danger and difficulty of the two procedures I am as yet somewhat undecided. From my own experience I am satisfied that the technique of the simple method of extraction, without iridectomy, is the more difficult of performance, even at the hands of one who may be very experienced and skilful. As every operator has to acquire knowledge, to a certain extent, not only by the experience of others, but by individual difficulties, mistakes, and failures, this I think an argument against the general acceptance of this method of operating.

The additional difficulty of performance, however, is no argument against the merits of the operation; for if it gives better visual results, and is equally safe, its adoption is assured at the hands of those who feel competent to undertake its performance. The reasons which in the course of my experience convince me of the greater difficulty of the operation without iridectomy are as follows: In the incision in the cornea the wound must be at a considerable distance from the sclero-corneal junction in order to afford room for the iris in delivery of the lens, consequently the lens has to subtend a greater distance and undergo a greater displacement in its exit than if the incision were nearer the same plane of direction of the lens; another, and to me the greatest difficulty encountered, is the interposition of the iris, which not only occupies a certain portion of the too-limited space, but by its contraction, invariably following upon

[1] Read before the Missouri State Medical Society, May 6, 1890.

evacuation of the aqueous, despite the previous use of atropia, offers a direct and forcible resistance to the escape of the lens. It is true that by manipulation and properly directed force this difficulty may be overcome. Such efforts in my earlier attempts, however, were productive of laceration and more or less bruising of the iris, and in one instance was attended by so much difficulty that, to avoid the danger of undue force, iridectomy was resorted to, although not previously contemplated, whereupon delivery was greatly facilitated.

To overcome this difficulty of the resistance of the iris, and to avoid laceration and bruising of its surface, I have of late resorted to making the corneal section much farther from the sclera than in the Gräfe method with iridectomy, thus leaving ample space for the iris between its base and the point of exit of the lens through the cornea, into which it may be crowded. In several of my earlier extractions without iridectomy, owing to the nearness of the corneal section to the scleral margin, I found, upon attempting delivery of the lens, there was not sufficient space for the iris to occupy, and not only great difficulty was encountered but injury to the iris ensued, followed by more or less iritis, with slight incarceration of a portion of the iris in the corneal wound in healing; thus defeating one of the prime objects of the operation, rotundity and mobility of the pupil. Several expedients have been proposed to overcome the difficulty of the delivery of the lens. and for the additional purpose of protection to the surface of the iris.

By Dr. Valk a distensible shield, pointed with two knobs, is proposed. The method of its manipulation is to insert through the corneal wound, cover the surface of the iris, and by the knobs holding in the pupil, retract the iris upward as far as necessary and slide the lens over the front surface of the shield. Dr. Valk reports good success with it. I have not tried it, nor am I familiar with its pattern except from description. I should think, however, it objectionable on the score of occupying considerable space, already too limited. Its insertion, moreover, I should think awkward, and in the event of sudden movement of the eye under operation its presence in the anterior chamber especially dangerous. The expedient I have resorted to, in order to overcome the presence of the iris and to protect it from injury, is, after obtaining the maximum effect of a strong solution of atropia and cocaine, to make the corneal wound well forward at its apex, beginning very near the sclero-corneal junction, about one-third of the distance below, cutting upward and outward, terminating at a considerable distance from the periphery of the cornea above. By this slanting direction of the corneal wound a greater length of section is obtained than in beginning the section farther forward in the cornea, and space available is left between the upper flap and the sclera for the body of the iris. I use, in making the section, the large-sized Gräfe knife. To overcome the resistance of the iris, and frequently rigidity of the pupil, I have for two years resorted to the same instrument recently mentioned by Dr. Knapp as used by him, that is, a fine wire loop attached to a delicate handle. This instrument, which can be easily and thoroughly sterilized, I insinuate through the corneal wound into the pupillary space, and retract the iris into the superior triangular space, and by a gentle pressure backward and upward of a strabismus hook applied against the lower edge of the cornea, I have little difficulty in the delivery of the lens, and without material injury to the iris, and in no instance accompanied by loss of a single drop of vitreous or followed by a septic infection of the eye.

Rupture of the capsule I prefer, after corneal section, and give preference to a horizontal incision as near the upper edge of the lens as practicable. After delivery of the lens, in case of prolapse of the iris, I replace as carefully as possible, usually with the before-mentioned wire loop, using a strong solution of atropia to maintain dilatation of the pupil, in preference to eserine to contract it, there being less danger, in my opinion, of prolapse and less liability to anterior synechia of the iris when dilated than when contracted, that is, with the corneal wound lying well forward.

In the event of the iris being much bruised and difficult of reduction and retention, as happened in one of my operations upon an aged patient, in whom the iris was in an atrophic diseased condition, I should, as I did in this instance, perform a precautionary iridectomy, even after safe delivery of the lens. In a healthy condition of the iris, however, a considerable amount of manipulation is well borne, and I have found that by waiting a short time reduction and retention may be often more easily accomplished than immediately. Should slight prolapse or incarceration of the iris take place, serious consequences, under my observation, need not necessarily ensue. Several such cases I have had, accessible to inspection from one to four years, and one case, in which incarceration of the iris was present, dated back ten years, and with the exception of more or less loss of mobility and rotundity of the pupil, no evil consequences have occurred. This manipulation of the iris and introduction of instruments into the chamber of the eye must, I think, be always attended with a certain amount of danger, and offers a more or less reasonable objection to the simple method of extraction; but it must be borne in mind that under strict antiseptic precautions and skilful manipulation all these dangers and difficulties may be overcome and most brilliant and useful results obtained. In the old method of Gräfe, in vogue for the past two decades, the corneal section lies much nearer the sclera, and consequently more nearly in the plane of the direction of the lens, but leaves no space as provision for the iris. Iridectomy is therefore imperative. The ease with which delivery of the lens and cortex is accomplished in this method of operating, avoiding the danger of undue force and manipulation; the avoidance of prolapse and incarceration of the iris; the infrequency of posterior synechia and obliteration of the artificial pupil; and the crowning glory of the large aggregate of statistics for the past twenty years, showing a percentage of successes, at the hands of different operators, ranging from eighty to ninety-five per cent., must maintain the popularity of this method of operating for cataract as a favorite procedure for many years to come.

In fact there are conditions often present in cataract extraction, such as an exceedingly small cornea, shallow anterior chamber, a diseased condition of the iris, fluidity of the vitreous, and other unusual conditions and complications which must at times debar the simple method and give permanency to the method of extraction with iridectomy. In considering the relative degree of danger of corneal suppuration, plastic iritis, and panophthalmitis in the two methods of operating, I believe, since the advent of antiseptics, there is no greater risk in the one than in the other. The liability of prolapse and incarceration of the iris is greater in the simple method, but, when skilfully performed and confined to properly selected cases, need not occur, and, in the event of occurring, is not necessarily a matter of serious consequence. In cases of fluidity of the vitreous I am not prepared to claim superiority, as to safety, for the simple method of extraction. In my experience in extraction of cataract, both with and without iridectomy, it has been my fortune never to have encountered an instance in which the vitreous was in a fluid state. In a normal condition of the vitreous I think there is little occasion for apprehension as to escape of the humor in either method.

When in a fluid condition, however, I am inclined to feel that in extraction with iridectomy there is less danger of escape than by the simple method. It is true that in extraction with iridectomy the corneal incision lies nearer the posterior chamber and invites escape of vitreous during and after operation more than if at a greater distance; and, again, in an iridectomy a breach in the continuity of the iris is established, thus doing away with a certain

amount of support and resistance offered by that membrane. On the other hand, I think the increased manipulation, force, and pressure required for delivery of the lens without an iridectomy are more conducive to escape of the vitreous, particularly at the time of operation, than with it.

Another objection to the method of operating without an iridectomy which has presented itself to me in several instances is the difficulty of thoroughly removing the *débris* of the lens.

The corneal incision lying so far forward, a ready exit of fragments of the lens cannot be accomplished, and, moreover, the undivided circular form of the iris offers, as it were, a hiding-place for small bits of cortex and broken fragments of the lens.

Of late I have not hesitated, however, in freely irrigating the anterior chamber, detaching and washing out all remnants of the cataract, using for this purpose a warm solution of 1 to 20,000 of bichloride of mercury in distilled French rose-water. My method of irrigating the anterior chamber is as follows: After drawing out to a fine point a small glass tube, I insert it in one end of a piece of flexible rubber tubing, thoroughly sterilized, suck up by the mouth the tube one-half or two-thirds full of the bichloride solution, and by the force of the mouth perfect control may be exercised over the force of the current in washing out the anterior chamber, leaving both hands free for manipulation—one for directing the glass tip, the other for controlling the eye, or other necessary movements. As yet I have seen no undue irritation or inflammation follow upon the use of this solution or method of using it. In this procedure of irrigation of the anterior chamber we possess, I think, a means of safely operating upon cataracts heretofore considered unripe on account of the cortex being unsolidified, and the difficulty of removing *en masse* the entire contents of the capsule deterring earlier operation. As an important plea for early removal of the cataractous lens, after useful sight is lost, in addition to the relief of mental distress, and the joys of an earlier restoration of vision, I am convinced that the conditions are more favorable for success the earlier the operation. In nearly all cases of long-standing cataract, in the aged especially, there is an atrophic, friable state of the iris, probably due in great measure to the continued presence of the diseased lens. Thickening and opacity of the anterior capsule are also more frequent in long-standing cases of cataract.

As to the claim for the procedure of iridectomy as a precautionary measure against iritis, I am by no means agreed. In the event of septic infection of the eye, resulting in plastic iritis, there is, I think, less likelihood of obliteration of the pupil with an iridectomy than without; under antiseptic precautions, however, there is no occasion to anticipate such a condition, unless in exceptional instances, such as accidental infection, complication of dacrocystitis, etc.

As to the liability of originating iritis, I think the greater danger lies in the mutilation of the iris by an iridectomy than without it, provided the iris be uninjured or materially so, in the extraction of the lens. As to the relative position and shape of the corneal wound in the question of healing, I think there is practically no preference. The liability of the corneal wound to gape arises, I think, in the great majority of instances, from pressure applied in bandaging the eye after operation. The lid I consider the best and only bandage necessary, so far as support to the cornea is concerned. I usually apply a thin film of absorbent cotton, saturated with a strong solution of bichloride of mercury, over the lids, and adjust a light quantity of antiseptic cotton upon this, held in position by a very loose bandage, consisting of a small square piece of linen, with four strings attached, for tying loosely behind the head, which permits of frequent inspection, several times daily, from the hour of operation.

In conclusion, I shall briefly refer to the results, as to vision, obtained by the two different methods of operation.

Owing to want of care in preserving tabular records in practice, I am not prepared to offer accurate and detailed reports of my cases.

I can only report general conclusions that in upward of one hundred cases, about one-fourth of which have been performed without iridectomy, in none have I met with corneal suppuration, plastic iritis, or panophthalmitis in either procedure. In two instances the result as to vision was nugatory. One failure occurred while operating with, the other without, iridectomy. In neither instance, however, was the failure to restore sight attributable to the method of operating, nor to complications arising therefrom. In one case there was neuritis, and in the other chronic irido-choroiditis, existing prior to operating, and in neither case was there more than a trace of quantitative perception of light before operation. So hopeless was the outlook for benefit, that in both instances operation was done under protest, and simply as a gratification to the individuals at the solicitation of friends.

Such failure, therefore, to produce sight in instances of so marked, grave complications, should not legitimately be included in statistics showing the attainable results of cataract extraction.

In every other instance good vision was obtained by both methods, sight ranging from $\frac{xx}{60}$ to $\frac{xx}{20}$, and in one instance $\frac{xx}{15}$, being prevented often by circumstances incident to private practice, as well as negligence, from keeping accurate records of the visual results obtained, particularly the ultimate effect. I am not in a position, individually, to contrast the results, as to vision, between the two methods. In one of my cases, after removal of the cataract without iridectomy, and obtaining a round, active pupil, and healing without complications, a phenomenon of rather a puzzling nature remained.

Six days after operating, November 15, 1888, upon the right eye V. + 10 D. = $\frac{xx}{15}$. September, 1889, V. + 11 D. = $\frac{xx}{60}$. March, 1890, V. + 11 D. = cl. + 1 ax. 90° = $\frac{xx}{20}$.

There was inability, however, to wear the above lens owing to its marked magnifying effect upon the size of the object, and the consequent difficulty experienced in measuring distance and locating the position of objects. Even the reduction of one-third the full strength of the lens could not be used in locomotion, and after one-half reduction complaint of slight enlargement of objects persisted.

I am at a loss to account for the condition, unless it be attributable to the psychological function. That it is due to the method of extraction is, of course, untenable.

Dr. H. Knapp, in reporting two series of one hundred cases each of cataract extraction without iridectomy, gives tabular statistics showing in the first series ninety-six per cent. of good results, three per cent. moderate, and one per cent. failure. In the second series, ninety-seven per cent. good vision; two per cent. moderate; one per cent. failure, and in this series, by subsequent discission operations, restoring three-fifths of possible maximum sight, including extraneous complications. Such results as these, while not attainable at the hands of the average surgeon, cannot be paralleled as yet by any other method, and show beyond argument the merits and safety of the procedure of extraction without iridectomy. In conclusion, to summarize, I believe the operation of extraction without iridectomy is always more difficult of performance than with an iridectomy, yet in the great majority of cases it is practicable, safe, and approaches more nearly to the ideal in results, as to vision and appearance.

New York Polyclinic.— The catalogue of the New York Polyclinic shows an attendance for the session of 1889–90, of 422. The Faculty have resolved to exclude all but graduates of regular medical colleges from matriculating at this school.

Clinical Department.

COMPOUND COMMINUTED FRACTURE OF THE PATELLA.[1]

By H. L. JENCKES, M.D.,

HAZEL GREEN, WIS.

EVEN a casual perusal of the literature of this subject leaves the impression that no uniform rule of treatment is, at present, agreed upon.

Prior to the advent of antiseptics there was one general opinion regarding the results of treatment of this fracture; the object being to secure a short and firm ligamentous union of the fragments.

Of late, however, many attempts have been made to secure bony union, by wiring together the fragments. All are familiar with the opinion expressed by the Société de Chirurgie, of Paris, regarding operative treatment in this class of fractures. The members, with few exceptions, looked unfavorably upon the procedure.

Hamilton[2] was of the opinion that a short, strong, fibrous union gave nearly, perhaps quite, as serviceable a joint as did bony union.

Dr. William F. Fluhre, in quite a long and exhaustive article, which recently appeared in the MEDICAL RECORD,[3] strongly advocates the wiring of the fragments, even in recent simple fracture of this bone. He says: "The non-operative treatment, it appears to me, should be restricted to those cases of fracture in which there can be obtained either bony union, or a short, inextensible ligamentous union. The interior conditions of the joint essential to the production of this result are present in only a small minority of cases." This would bring nearly all cases of fracture of the patella in the class requiring operative treatment.

As considerably opposed to this opinion are the views expressed by Dr. William T. Bull,[4] who says: "Although my experience has been limited in recent fractures to the simplest conservative treatment, it will not be out of place for me to offer some criticisms on the more severe operative procedures, which have attracted so much attention. First, of wiring the patella, it is needless to say that, while it made its entrance into practice by the advocacy of the pioneeer of antiseptic surgery, Sir Joseph Lister, it has never received general support. One does not need to quote the discussions of the French Société de Chirurgie, or the Medical Society of London, where the majority of speakers opposed it; nor to be familiar with the collection of statistics which speak against it. It is sufficient to know that death and disaster from amputation, and suppuration, and anchylosis have followed its performance in the hands of the many, and that we have no evidence that when in the hands of the few it has proven safe, the ultimate results have been better than those by non-operative methods."

In the discussion which followed the reading of this paper before the New York Academy of Medicine, the majority of speakers were in favor of treating simple recent fractures of this bone by non-operative methods; reserving the operation of wiring to cases of compound fractures.

It is to a fracture of this nature, treated by the non-operative method, to which I would call your attention.

On the evening of March 8, 1889, Mr. D——, a tall, powerfully built man, was kicked in the left knee by a sharply-shod horse. I saw him about an hour after the accident, and found a wound about an inch in length over the centre of the patella; this wound extended down through the fragments of the patella, but did not seem to penetrate into the interior of the joint. The three fragments into which the bone was broken were freely movable, the upper fragment being separated from the lower fragments by nearly an inch. The patient was informed of the serious nature of the accident, and was told that wiring of the fragments might have to be resorted to. The wound was first thoroughly cleansed by a warm bichloride solution. The fragments of bone and the edges of the wound were brought together and held in position by the fingers of an assistant. Adhesive strips were then applied for the double purpose of steadying the fragments and of keeping the wound from gaping. A long, well-padded posterior splint was applied; this, with a roller bandage and an ice-cap to knee, completed the dressing. The case progressed favorably, presenting no unusual feature. In six weeks the splint was removed, the patella fragments were closely united, but motion of the joint seemed gone. Friction and slight passive motion of the joint were practised twice daily, and the patient allowed to move about his room. With exercise the function of the joint gradually returned, and at present writing, a year and a half after the accident, the leg can be flexed to about ninety degrees.

The fortunate result of this case is particularly gratifying, inasmuch as only the simplest and most conservative methods were employed.

There are, however, cases of this nature which seem to immediately demand operative interference. Cases in which the fibro-periosteal investment of the bone is so much lacerated as to permit the escape of a quantity of blood into the interior of the joint. In such cases let the joint be freely opened, the clots washed out, and the fragments wired. All this to be done under antiseptic rules, and we may reasonably hope to save a limb, or to restore the function to a joint, which under the non-operative treatment might end in suppuration, anchylosis, or even in the death of the patient. Such a case is reported in the *American Journal of the Medical Sciences* for April, 1890, by Dr. Michel, of Charleston, S. C. The case was associated with hæmarthroidal effusion and extravasation to an inordinate extent. In commenting upon such cases he says: "There was a time when the fatality of such complicated fractures of this bone led to the amputation of the limb without hesitation, and in military surgery our recent experience taught us, both in field and hospital service, that under any mode of treatment then in practice, death sooner or later was certain to result, unless resort was had at once to amputation or resection."

These remarks illustrate the serious nature of compound comminuted fractures of this bone.

In summarizing our conclusions regarding the proper treatment of fractures of this bone, we would unhesitatingly oppose operative interference in recent simple fractures.

In compound comminuted fractures, in which the fibro-periosteal investment is but slightly lacerated, and hæmarthroidal effusion into the interior of the joint does not occur, we can obtain a successful result by the simplest and most conservative treatment.

We would reserve the operation of wiring to cases of old ununited fracture, and to cases of compound comminuted fracture associated with laceration of the periosteal investment of the bone, and effusion of blood and serum into the joint.

[1] Read before the Dubuque (Ia.) Medical Society, September 9, 1890.

[2] Hamilton on Fractures and Dislocations, p. 552.

[3] MEDICAL RECORD, June 7 and 14, 1890.

[4] Ibid, March 22, 1890.

THE TREATMENT OF TONSILLITIS BY VERATRUM VIRIDE.

By W. WASHBURN, M.D.,

NEW YORK.

AN article in the MEDICAL RECORD of September 28th, by Dr. A. S. Hudson, on rapid cure of tonsillitis, prompts me to give the history of a similar case of mine treated the past week. The patient had frequently suffered from ulcerative tonsillitis, and the tonsils were now much swollen, enlarged, and inflamed. Not being satisfied with my results in former cases of this kind, I deter-

mined to try the veratrum viride treatment, and gave five drops of the tincture every three hours until three doses were taken, and no more until morning; fifteen grains of Dover's powder at bedtime. There was no soreness of tonsils remaining, but the patient took two more doses in the morning before I saw her. The pulse being weak and the patient complaining of faintness, she was confined to bed during the day, and ordered morphia one-eighth grain every three hours and a little stimulant. The faintness soon disappeared, and the tonsillitis did not cause any further trouble.

In this case the experience of Dr. Hudson was verified to the satisfaction of both my patient and myself. I would like to emphasize the necessity of using the morphia, not alone for its effect on the disease, but because of its influence in supporting the heart's action. Indeed, I believe it will be found chiefly useful on this account, because the veratrum cannot well be borne in sufficiently large doses to cure the disease without the heart receiving this support.

Progress of Medical Science.

Diphtheria and Manure. — The connection between human diphtheria and cognate maladies of the lower animal creation has now been placed on so firm a basis that it is but a step further to postulate an association between this disease and manurial refuse. Dr. Airy, in a recent report to the Local Government Board on an outbreak of diphtheria in the Samford Rural Sanitary District of Suffolk, has shown that in a particular village in this district the outbreak was immediately preceded by the passage through it of a cartload of London manure landed from a barge near by. Several children returning home from school complained of the stench from the cart and sickened soon after. These cases set others going and the disease was then disseminated by school attendance and the like. Though, as Dr. Airy suggests, the foul effluvia of the manure may have acted by hastening the growth of the diphtheria only, yet he considers some weight should be given to the suggestion that the earlier cases were, in some way or other, due to the introduction of the manure. He states that the traffic in manure has increased greatly in these parts of late, and points to the great increase of diphtheria in London since 1882. Dr. Airy's suspicions as to the ability of manure to convey disease are confirmed by the medical officer of health, Dr. Elliston, who has observed scarlet fever to develope in certain places after the deposit of London manure. Similar experience is also forthcoming from Strood, in Kent. The whole question of this association between infectious disease and manurial refuse deserves the attention of sanitary workers and observers. Whether the association is one of coincidence only or is truly causative, extended inquiry alone can determine; and if the latter be the case, it will yet have to be said whether the infection is a direct one, that is, whether the poison contained in the manure is derived from a toxic animal's discharge or secretion; or whether the infecting manure acts only as a *nidus* or multiplying ground for the resting forms of certain specific contagia which may gain access to it. We trust that all who have opportunity of observation will not fail to record any facts bearing on this highly important and interesting problem.—*Medical Press.*

Action of Urine on Tissues.—This subject was recently discussed before the Société de Biologie. The older surgeons considered infiltration of urine as a grave accident, particularly in preventing the union or cicatrizing of wounds. This opinion is erroneous in more than one point, as the clinic daily demonstrates the negative. On the other hand experimental researches of Guyon and Buchard have shown that urine alone is aseptic. That it becomes hurtful after alteration, due to the accidental development and multiplication of the pyogenic bacillus which gives the urine irritating properties, ramified in certain cases by gangrenous and diffuse phlegmons. In his turn M. Tuffier, in experimenting upon animals, has once more confirmed the views now all but universally admitted. They fully support some recent surgical operations that seem bold to the point of rashness, such as the resection of the vesicle wall for neoplasm, etc. Genito-urinary surgery is, like other branches, dependent largely upon experimental work for its further advancement.—*The Journal of the American Medical Association.*

Failure of the Suspension Treatment of Locomotor Ataxy.—There are signs in the air that the suspension treatment of progressive locomotor ataxy, respecting the beneficial result of which we have heard so much during the last year or two, is likely to follow Bergeon's recto-insufflation treatment and Apostoli's electrical treatment for uterine fibroids. The ease with which trained observers become convinced of the value of a method which subsequent experience shows to be idle, if not injurious, is really marvellous, and points to certain defects in the constitution of the individual mind. The great point, to begin with, is to establish indubitably the nature of the disease which it is proposed to cure, and this is often not possible, or, if possible, is rarely accomplished. Both operator and subject, moreover, seem to be hypnotized by the concentration of the attention on a given object, and the result is an amelioration which, in the hands of less enthusiastic observers, is frequently conspicuous by its absence. These medico-historical facts should teach us to show a becoming diffidence in placing too implicit confidence in new remedies. Who will venture to assert that a time will not come when the panaceal qualities of antipyrin will have sunk into oblivion (though not without having made the fortunes of a number of speculators), crushed by the pretensions of new derivatives from other series at present unknown to the chemical and therapeutic world.—*Hospital Gazette.*

Mercurial Treatment of Dysentery.—Dr. Lemoine has had an opportunity to treat 102 cases of dysentery in the military hospital of Oran. Fifty-four were treated with sublimate clysters, being those who could not take calomel owing to some disturbance of the stomach. Twenty-one used calomel, with a beginning dose of 1 gramme followed in the next two or three days by smaller doses; 11 were treated with ipecacuanha; and 16 in the beginning with ipecacuanha, and later with mercury. No deaths were noted, and ordinarily 1 gramme of calomel was sufficient to check the slimy and bloody stools. In 28 of the cases, the favorable results were immediate. The clysters, consisting of 200 grammes of a five per cent. solution, were commonly retained about ten minutes, and worked rapid improvement in the tenesmus and slimy discharges. In some cases, owing to the sensitiveness of the anus, it had to be painted with a solution of cocaine. In many cases the calomel was given in connection with the clysters. Poisonous symptoms were not noted in any case. The author refers the favorable action of mercury in these cases to its antiseptic power.

Doctor and Preacher.—The following epigram on a well-known physician and preacher has been going the rounds again:

"*Omne tulit punctum qui miscuit utile dulci.*"

Parson and Doctor joined in one
Most suitably we find;
The one the suffering body treats,
The other soothes the mind.
The Parson shows the way to heaven;
And then, with tender care,
The Doctor consummates the work,
And gets the patients there.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, October 18, 1890.

THE OFFICIAL REPORT OF THE EXECUTION BY ELECTRICITY.

DR. CARLOS F. MACDONALD, State Commissioner of Lunacy and Chairman of the Medical Commission of Experts in the Kemmler execution, has made an official report to Governor Hill, in which he declares himself in favor of the new law. It will be evident, to such as read his statements and note his comments, that the strongest possible argument has been offered for the electrical method of getting rid of criminals. With the firm conviction that he is in the right, he has conscientiously stated the truth as he sees it, and his conclusions are to be respected accordingly. While in some respects we cannot agree with the distinguished commissioner, every one present at the execution must admit that, whatever of failure there was in the execution, no possible reflection can be cast upon his endeavors to make it a success. That it failed in spite of his best efforts to the contrary, is the most severe criticism that can be offered against the method. The part which he took in the matter of advising and directing was certainly beyond criticism. From his stand-point everything was done which was possible in order to take advantage of all the experience gained in studying the subject from a practical as well as theoretical standard. In our opinion the execution was a failure, notwithstanding. Whether the victim was absolutely dead or not after the first stroke, will perhaps ever be an open question. The necessity of applying a second stroke is the strong element in favor of the doubt. There is great satisfaction in knowing that after the first stroke consciousness was abolished, and the culprit did not actually suffer. But it was quite hard to kill him, nevertheless. In the light of present experience it is a pity that the time of the first shock was not lengthened to twenty seconds, as originally recommended by Dr. MacDonald; then, as he suggestively admits, there would probably have been no grounds for adverse criticism. The time of the second current was unnecessarily long, as Dr. MacDonald very properly states. As a result of an exhaustive study of the subject in all its details, he concludes his report with the following suggestions, which are worthy of the most respectful consideration:

"1. The statute providing for the execution of criminals by electricity should be amended so as to provide for but one plant, to be situated in the central part of the State, in a building especially constructed for the purpose. The building should contain the necessary electrical apparatus, an engine, execution-room, solitary cells, and quarters for the guards and other necessary officials; the apparatus to be in charge of, and operated by, a competent, accredited electrician.

"2. The engine and dynamo should be especially constructed for the purpose, and should be capable of generating an electro-motive force of at least 3,000 volts, in order to insure the maximum voltage that would be necessary, and at the same time cause no injustice to any electrical lighting company, such as is likely to be the case so long as commercial dynamos are used in executing criminals.

"3. The volt meter should be placed in the execution-room, and a competent and responsible official should be detailed to take the readings of the meter before and at the instant the current is applied. The voltage should not be less than 1,500 nor more than 2,000, and should be a matter of official record. The prisoner's resistance should also be taken immediately before bringing him into the execution room.

"4. The statute should require an official report of each execution, to be made to the Governor within ten days after the execution takes place."

DERMATOLOGICAL INSTRUCTION IN AMERICA.

THE tendency of modern medicine to the creation of specialties must be recognized as an important element of progress. The division of labor, upon which the idea of specialism is based, is a necessary condition of success in a field so broad as that of medicine. The concentration of effort within certain limits results in a more exact knowledge, a more thorough acquaintance with detail, and a higher quality of skill. In perfecting particular parts or branches of medicine, specialism contributes to the perfection of the whole.

There is no doubt that the number of medical men who devote themselves to specialties is rapidly increasing. Many are attracted to a special line of study by the intrinsic interest of the subject, while others embrace a specialty solely from its presumed material advantages. To the average medical mind a special practice presents many alluring and seductive phases. It means an exclusive office practice, regular hours, higher fees, with a comparative exemption from the arduous outdoor duties of general practice.

But the multiplication of specialists threatens to be an abuse. The Austrian Government has recognized this fact, and, it is stated, will shortly issue an order for the regulation of special medical practice by prohibiting anyone to practise as a specialist in any particular branch of practice who cannot give proof of having specially studied the class of diseases he proposes to treat.

The title of specialist carries with it a presumption of special study, of superior knowledge, of a higher degree of skill in the treatment of a particular class of diseases; but if measured by this standard it must be admitted that many specialists will be found sadly lacking. Too often the young medical man sets up as a specialist immediately after graduation, with no opportunity for spe-

cial training than that afforded by the ordinary curriculum of the medical college. Unfortunately, few of our medical schools afford either the time, opportunity, or facilities for acquiring a thorough knowledge of special studies.

In his recent address before the American Dermatological Association, the President, Dr. Prince A. Morrow, after referring to the extraordinary growth and development of American dermatology, and the brilliant record of its scientific work, considers the present position of dermatological instruction in this country. He calls attention to the general recognition of the importance of a knowledge of skin diseases as an essential element of medical education, and the extraordinary increase of the teaching facilities in this branch of medicine.

Previous to 1876, the date of organization of the Association, there were but twelve medical schools in this country in which instruction was given in diseases of the skin, and the entire teaching capacity was represented by 3 professors, 2 clinical professors, 5 lecturers, and 2 instructors. With the view of obtaining facts which should serve as a basis for an exact appreciation of the provisions made by the different medical schools for instruction in dermatology, a circular letter was addressed to the executive officers of more than one hundred medical colleges in the United States, requesting a copy of the announcement and information as to the hospital and dispensary facilities for the clinical teaching of skin and venereal diseases.

An analysis of the facts thus obtained shows that no fewer than seventy-five medical colleges have officially recognized representatives of dermatology in their teaching faculties, ranked as follows: 49 professors, 8 clinical professors, 22 lecturers, 7 instructors, with a large number of chiefs of service and clinical assistants who, in many instances, give instruction. In the department of venereal and genito-urinary diseases there were 24 professors, 4 clinical professors, 6 lecturers, and 6 instructors. Leaving these aside there is found an increase in the number of teachers of dermatology from 12 to 86.

The inquiry is then made whether the methods of instruction as now conducted, and the clinical facilities as now organized, in many of our medical schools, conduce to the cultivation of a sound knowledge of dermatology; whether the student is fitted by a thorough practical training for the ready recognition and the intelligent management of cutaneous diseases when met with in practice. "Does this extraordinary increase in the teaching organization denote a healthy and substantial progress, or is it a mere mushroom growth, delusive alike in its aspect of vitality and its promise of usefulness?"

Notwithstanding this numerous and imposing professional array, Dr. Morrow is not disposed to take an optimistic view of the situation. He asserts that an examination into the practical results of the present system demonstrates its defects. The majority of graduates in medicine are launched into practice with the merest superficiality of knowledge, often in complete ignorance of the most elementary principles of cutaneous medicine.

For the successful teaching of diseases of the skin two conditions are essentially requisite: 1. Capacity of the instructor. 2. An abundance and variety of clinical material. Without criticising the competence of the instructors, he asserts that the second most essential condition of the successful teaching of the treatment of skin diseases is sadly lacking; the majority of our medical colleges are absolutely unprovided with adequate means for clinical instruction.

Even in our large centres of population, where clinical material is abundant, its advantages are too often dissipated by its division and diversion into many separate classes. Instead of patients being aggregated into one or more large central establishments where they may be available for purposes of clinical instruction, they are dispersed in small groups here and there in various dispensaries. Another drawback to efficient instruction is the lack of special hospitals and special wards in general hospitals for this class of patients. For the education of the student in the diagnosis and treatment of skin diseases bedside instruction is essential; in no other way can the practical requirements of clinical teaching be realized.

Other existing defects in the organization of dermatological instruction are directly referable to the governing faculties of the colleges.

1. The lack of system and proper grading in the order of studies.

2. The insufficient time and opportunity afforded for special studies, the schedule being so arranged that the student's time is almost entirely occupied with those studies which are deemed essential to graduation.

3. The most serious obstacle to proper instruction in dermatology is the attitude of the governing faculties toward special studies, in ignoring them as a necessary part of medical education. There is no medical school in this country in which the study of diseases of the skin is obligatory; in none is a knowledge of this important branch of medicine required as a condition of graduation; the professor in this department is not allowed to interrogate students, and has no voice in deciding upon their qualifications for a degree.

Until the attitude of the governing faculties of the medical schools toward special studies undergoes a radical change, until the important and neglected branch of dermatology is rescued from its inferior position and made an integral and necessary part of the course of medical education, it is vain to expect that the student will attain that proficiency in the knowledge of skin diseases—that scientific and practical training—which the needs of his professional work demand. Unless the deficiencies in the present methods of dermatological instruction are corrected, it becomes a question whether this phase of medical education, as well as the study of other special subjects, should not be intrusted to post-graduate schools, which are springing up everywhere in recognition of existing defects in undergraduate schools. It is also a proper subject for consideration whether this post-graduate instruction may not be better and more efficiently carried out under the auspices and direct supervision of the medical colleges rather than by independent organizations over which they have no control.

THE MURDER OF AN ASYLUM PHYSICIAN.

A SHOCKING murder occurred at the Flatbush Insane Asylum last week. A lunatic, who had formerly been an inmate of the asylum, entered the office in which Dr.

George W. Lloyd, the Assistant Superintendent, was sitting. After a few crazy words he fired at Dr. Lloyd, instantly killing him.

The lunatic had made himself notorious some years ago by his pursuit of the actress, Mary Anderson. He had been an inmate of Flatbush Asylum, but escaped about six weeks ago. On September 26th, he appeared at the asylum and threatened to shoot Dr. Fleming. He was allowed to depart. The authorities of the asylum are severely criticised for their negligence in thus permitting a crazy man to be at large. There seems to be good ground for such criticism and censure.

The daily press, which is so keen on this point now, however, has always systematically nourished a sentiment against putting any person in an asylum unless he or she was most pronouncedly and violently insane.

Not long ago a young woman, who suffered from the same form of insanity as that of the murderer of Dr. Lloyd, was pronounced insane by examining physicians. But a sheriff's jury decided that she was sane, and she was discharged with the acclamations of the press. Fortunately she did not kill anyone.

The Flatbush Asylum case is a most unhappy one, leading as it did to the untimely death of a most promising young man.

CONCUSSION OF THE SPINE.

ABOUT many subjects in medicine and surgery there lingers much indefinite knowledge. It is partly tradition handed down from one generation and one author to another, and yet it is not thrown aside because of a lack of anything more definite to take its place. It is therefore an agreeable task to chronicle an advance in positive knowledge. In no class of injuries has this been more needed than in those of so-called "concussion." Hitherto the views of Erichsen and Page have been authority, and they undoubtedly contain much that is fundamental and generally admitted to be true. It has been the fortune of an American surgeon, Dr. B. A. Watson, of Jersey City, to supplement these ideas by the published results of an elaborate series of experiments.

In the course of the work one hundred and forty-one dogs were experimented upon. The animals were uniformly dropped twenty-five feet, and were so hoppled in one hundred and thirty-five cases that the blow was delivered on the nates, while the spine formed a nearly perpendicular line to this point. In six other cases the blow was received along the spine, while the head of the animal was sufficiently raised to prevent its coming in contact with the floor. Immediately before each trial a full record was made of the animal's weight, age, sex, pulse, temperature, respiration, and of the condition of the pupils. These observations were carefully resumed the day after the trial. Full pathological examinations, in gross and microscopically, were made by Dr. Frank Ferguson.

We can but briefly allude to the well-analyzed results given by Dr. Watson. The injuries received by the animals "were frequently compound and nearly always complicated, while in degree of severity they differed widely, being in some instances quickly fatal and in other cases they were so slight as to be imperceptible either in the post-mortem or microscopical examinations." The last record of vital conditions in the animals surviving the fall was made just before they were killed by chloroform. In 5 cases there were fractures of either the ribs or vertebræ; in 11 an incomplete rupture of the sacro-lumbar ligaments was found, but in every instance some pathological change had resulted also in the cerebro-spinal axis. Quickly fatal results happened in 4 cases. The spinal ligaments were stretched in 5.

Of injuries to the viscera the most frequent was hemorrhagic infarctions of the lungs, 36; then followed, in order, congestion of kidneys, 32; lacerations of liver, 15; ecchymosis of psoas muscles, 7; pneumonic hepatization, 5; hemorrhagic infarctions of liver, 4; and others of less frequent occurrence, including rupture of spleen, 1; of liver, 1; of kidneys, 2; of pelvic blood-vessels with considerable hemorrhage, 2; and of bladder, 1.

Dr. Watson intelligently discusses many of the problems which this series of experiments presents. We deem his conclusions of sufficient importance to present them in outline as follows:

1. Concussive accidents never produce pathological changes in the cord unless great force has been applied to the spine. These cases are generally complicated with vertebral fracture or dislocation, rupture or stretching of vertebral ligaments, or distant injuries so severe as to quickly prove fatal.

2. The symptoms develop immediately and are rarely intensified by morbid changes in the cord; exceptions, fractures, dislocations, and slowly developing hemorrhage causing pressure on the cord.

3. It is very difficult to demonstrate stretching of vertebral ligaments on living subjects. The lesion is frequently overlooked on autopsy.

4. Injuries of the cord, with visceral injuries in addition, develop symptoms dependent on the existing complication. The termination of the case rests on the character of the traumatism.

5. Concussive force, though remotely applied, frequently results in the production of severe and even fatal traumatisms in various organs within the three trunk cavities.

News of the Week.

New York State Medical Association.—The seventh annual meeting of the New York State Medical Association, which will be held October 22d, 23d, and 24th, at the Mott Memorial Hall, 64 Madison Avenue, New York, will be an unusually interesting and profitable one. Almost every subject in practical medicine will receive attention. Over fifty papers are promised, besides general discussions on the management of labor, and on cerebral lesions with reference to operative procedure. Members of the profession in this city and vicinity are invited.

It is Reported that the United States Marine Hospital Service will recommend the plan of having a systematic examination of all persons intending to immigrate to this country. This examination would be made by physicians attached to the United States consulates. It is to be hoped that some such measure may be attempted. It is cheaper to keep out the sick, criminal, and defective classes, including anarchists, than to support them here or send them back.

Sanitary Supervision of Lying-in Hospitals.—At a convention of delegates from the various societies in the State for the prevention of cruelty, held at Albany, October 1st, a resolution was adopted recommending that all lying-in asylums, and all institutions for the care of children, should be licensed and under the inspection of local health boards.

The Secretary of the International Congress, Dr. Lassar, seems to have had a most unfortunate termination of his labors in organizing the Berlin meeting. It is stated that he left Berlin precipitately to escape the consequences of his rudeness while conducting the Empress through the exhibition; also, that his official statements at the last meeting of the Congress were incorrect. He is now reported to be insane; and this last supposition is, unfortunately, a probable one. Dr. Lassar did undoubtedly the most work and the best work of anyone connected with the organization of the Congress. He was a successful and popular man, and he now deserves the greatest sympathy from his professional brethren.

Prizes for Essays on Vivisection.—The American Humane Society offers two prizes, each of $250, for the best essays on the question whether vivisection should be permitted in the interests of humanity, and, if so, with what restrictions. Essays should be sent to George T. Angell, No. 19 Milk Street, Boston, before January 1st.

The Classical College and Medical Education.—We learn that Columbia College has voted to allow students to come up for the degree of A.B. at the end of the third year, thus shortening the time of preliminary education before professional studies are begun. Harvard has voted against the three years' course; but has at the same time voted "that a Senior intending to enter the Medical School and to take the full four years' course therein, may, under proper supervision, include in the requirements for the degree of Bachelor of Arts the courses on physiology and anatomy required in the first year of the Medical School, each of said courses to count as one full elective course."

A Physician Charged with Extortion.—Serious, but it is to be hoped unfounded, charges have been made against a well-known physician of this city for excessive and extortionate charges in connection with the examination and commitment of an insane patient. The sum of $1,550 was paid, it is said, for services as medical counsel and commissioner.

Lysol, cresol, aristol, sanitol, iodol, salol, listerine, volterine, pyoctanin, creolin, are some of the few modestly recommended antiseptics of the present day. But while each of these is struggling for a first place, we are being told that antiseptics are not now needed in surgery, and that asepsis is enough. This is sad news for the "ols" and "ines."

Ipecacuanha sine Emetine.—Surgeon-Major G. A. Harris, of Simla, invented a process by which emetine is removed from the ipecacuanha root without abstracting or decomposing any of its other ingredients. The powdered root is thus deprived of its nauseating properties, without, it is believed, interfering with its curative virtues. The preparation is being tested in cases of dysentery in the Medical College Hospital, with, so far as the trial has gone, promising results.—*Indian Medical Journal.*

The Therapeutic Value of a Large Fee.—There is a pleasing candor in the following extract from an article on the treatment of spermatorrhœa, by Dr. E. Lanphear, *Kansas Meaical Journal:* "The payment of a good fee, as of $50 or $100 in advance, assists very greatly in gaining the faithful adherence of the patient and in hastening a favorable termination. Then the first prescription may be given."

We are Sorry to Observe that the World's Fair matters are not moving altogether smoothly in Chicago. The *North American Practitioner* says: "The crowning display of idiocy on the part of the World's Fair directors has been the appointment of a Smelling Committee of three physicians, to inspect the various proposed sites. One is a gynecologist, another a professor of clinical medicine, while the last has some claims to be known as a hygienist." Why our esteemed contemporary should fret because the members of the sanitary committee are pursuing certain special lines of medical practice, we do not see. Most sanitarians are medical men, and there seems no good reason why they should not sometimes be specialists. We trust that the World's Fair is not going to stir up intestine strife among the doctors of the city of high-pressure vocalization.

Public Medical Library in Kalamazoo, Mich.—Dr. E. H. Van Deusen, formerly Superintendent of the Michigan Asylum for the Insane at Kalamazoo, but at present retired from active practice, has recently donated to the city of Kalamazoo the sum of $50,000 for the purpose of the erection of a public library building. There is but one condition fixed to the donation, and that is expressed in the following language, quoted from the doctor's letter to the Board of Education tendering the gift. "The sole condition we affix to the acceptance of this proposition is, that a commodious room, with a small office attached, located and arranged satisfactorily to us, shall be permanently set apart for the exclusive use of the Kalamazoo Academy of Medicine. This use, however, to be restricted to the meetings of the Academy, and for its literary and reading-room purposes only. The Kalamazoo Academy of Medicine is an incorporated institution, and when permanently located will rapidly increase its library. The costlier works and periodicals of very great value and service to physicians, but too expensive to be owned by individuals, will be added to its collection. As the entire public will participate in the advantages thus to be secured, it seems to us both proper and desirable that the Academy of Medicine be a co-occupant of the proposed public library."

Keokuk Medical College.—The opening exercises of this new medical college were held on September 25th. Many of the members of the faculty were connected with the College of Physicians and Surgeons of Keokuk until the close of last term, when they withdrew and founded the Keokuk Medical College.

For the Insane Hospital at Blockley.—The Committee on Charities and Correction of Philadelphia recently decided to recommend an appropriation of $75,000 additional for erecting buildings on the Almhouse property for the accommodation of the insane; $150,000 had been previously appropriated for this purpose, but it was found that $75,000 additional were needed.

Dr. Ellwood M. Corson has received from Governor Beaver the appointment of Trustee of the Norristown (Pa) Hospital for the Insane, to succeed Charles Hunsicker, Esq., whose term has expired.

A Physician Complains.—Dr. George Price, of Altoona, Pa., complains of having been fined five dollars and costs by Mayor Burchfield, of that town, for failing to report a case of "contagious" typhoid fever. Dr. Price claims that he was not allowed in his defence to state that he had twice applied in vain to the Board of Health for proper blanks, nor to explain the "contagious" part of the charge.

A Congress of Hydrology will be held at Naples toward the end of October, under the presidency of Dr. C. S. Vinaj.

Influenza of a very malignant type is extensively prevalent in Japan. In Tokio alone 100,000 cases are said to have occurred.

Leprosy.—In China eight varieties of leprosy are recognized, and the disease is considered contagious, infectious, and hereditary, but is said to disappear in four generations. There are leper villages to which all suffering from the disease are sent.

The Contagion of Crime.—Dr. Lydston relates the following in the *Journal of the American Medical Association*, September 27, 1890: "Two school-boys were stealing apples together. They were detected and pursued. One was caught, while the other escaped. The one who was captured was sent to jail and thrown among criminals, from whom he acquired a moral contagion which infected his after-life. After his release those acts which before his incarceration were merely boyish pranks, assumed a criminal character, and he became a confirmed criminal. The boy who escaped remained in school, and doubtless kept up his mischievous tricks during his school days. He afterward studied law, became a lawyer, and eventually was elected a judge. Twenty-five years after the apple-stealing episode the judge sentenced his former comrade to death for murder." If crime is thus shown to be contagious, it will be in order to discover its specific microbe. Preventive inoculations with the attenuated virus of crime will then follow, and the human race will be purged of bad actions.

Mr. Edward Bellamy, Senior Surgeon to Charing Cross Hospital, has been accused of being the author of "Looking Backward," and has found it necessary to write as follows to the editor of *The Times:* "SIR—Will you kindly do me the favor of disclaiming the authorship of this popular work? Would that I were clever enough to have written it. I ask you to publish this letter, personally, to endeavor to put a stop to the correspondence (in all languages) enforced upon me from bearing the accomplished American's name. My reputed authorship is an eternal worry. Possibly an English surgeon, as I have the honor to be, might, with advantage to his pupils and publisher, write 'Looking Forward;' the result would be truly inspiriting to the intending practitioner of A.D. 2,000."

The Seney Hospital.—A strenuous effort is being made to raise sufficient money to complete the Seney Hospital, in Brooklyn.

Experiments Made on an Executed Criminal.—On the morning of September 1st a man was guillotined for having assassinated his mistress. Immediately after the execution the body of the culprit was removed to a dissecting-room, where Drs. Gley, Barbi, Couturier, and two military surgeons performed some very curious experiments, which may be found interesting. The beats of the heart were observed by Dr. Gley during more than six minutes, and some experiments were performed to demonstrate the independence of the ventricular and auricular contractions. It is asserted that this is the first time that such observations have been made on man. Dr. Gley then undertook a long research relative to the acidity of the different parts of the intestinal tract.

A Health Board on Chewing Gum.—The following bit of useful information is published in the monthly Bulletin of a certain State Board of Health: "Chewing Gum a Healthful Exercise.—We have seen the most excitable young lady, with a highly strung nervous organization, under its magic influence become as quiet and contented as the well-fed cow that lies in the barnyard chewing its cud. We know of nothing that will, with anything like such undiminishibility (*sic*) endure so much mastication. We have chewed a piece of this gum contentedly for two hours without any perceptible change in its bulk, and after remaining under the seat of the chair, on the under side of the table, or on the bedpost over night, if not found and confiscated, it was ready for as grand service as when first pressed between the molars. We believe that every ship sailing upon the high seas should be well supplied with chewing-gum; and in time of danger of shipwreck the passengers should be furnished with at least a half-dozen pieces, so that if cast upon some barren and uninhabitable coast or island, they might have something with which to beguile the weary hours; and we know of nothing so innocently beguiling."—*The Boston Medical and Surgical Journal.*

Home for the Insane.—The report of Dr. W. W. Godding, the Superintendent of the Government Insane Asylum, Washington, D. C., has been submitted to the Secretary of the Interior. The number of inmates at the beginning of the fiscal year was 1,397, and at the close of the year 1,505, an increase of 108. They are divided as follows: Males, 1,155; females, 350. Of those admitted 115 were from the homes for disabled soldiers. The Toner Building has been opened for a distinct hospital for the sick, with nurses, and provided with all modern appliances. The Infirmary Annex Building is under contract, and it is expected that it will be completed during the present fiscal year.

Fidgets.—We are in receipt of the following interesting and valuable communication: "If you know of anyone who has got the fidgets right bad, tell them to suspend a flat-iron, or anything else the looks of which will not cause the fidget, from the ceiling of the room to near the floor, or the distance which causes the most agreeable sensation, set the weight to swinging a little, and sit down by it with the eyes fixed on it. If your patient is one of the sympathetic kind it will be likely to make her quiet. "If the weight is suspended from two hooks a little apart, it will have a better effect.—M. B."

Society Reports.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Fourteenth Annual Meeting, held at Richfield Springs, New York, September 2, 3, and 4, 1890.

PRINCE A. MORROW, M.D., OF NEW YORK, PRESIDENT.

The President's Address.—THE PRESIDENT called the meeting for scientific purposes at 10.30 A.M., Tuesday, September 2d, and proceeded to read his address, which gave a view of the present position of dermatology. Those engaged in this specialty had abundant cause for congratulation. Only a few years ago dermatology had little standing in this country. Previous to 1876 only twelve schools gave special instruction in dermatology. To-day, as he had learned by circular letter sent to a hundred colleges, it was recognized in the teaching faculty in eighty-six schools, probably in more. He asked, however, whether this showed a healthy growth or merely a mushroom growth. There was reason to believe that there were many and grave defects in the existing system of instruction. It is not the quantity but the quality and efficiency of the instruction which constitutes the criterion of its value. For successful teaching of the treatment of diseases of the skin two conditions are essential, namely, capacity in the instructor, and abundance and variety of clinical material. It must be admitted that the capacity of some of the teachers in our medical schools is doubtful, while the clinical material in the majority of cases is inadequate. Even in large cities the clinical material is too much dispersed. In New York, for instance, instead of having a central hospital for all dermatological cases as they have in Paris, this clinical material is dispersed in various dispensaries and hospitals in the city. For a thorough study of cases and of the results of treatment, a hospital is necessary. In medical schools cases of skin disease should be presented only to advanced students; not to those taking the first and second year's course. The study of these diseases should be obligatory, which is not now so in any school in this country, as far as he knows. If clinical material were not abundant, and the study of dermatology made obligatory, he thought it a question whether it would not be better to leave instruction in this department to post-graduate schools. It was a question also whether this post graduate instruction could not be better provided for in organized institutions than in independent organizations.

Nomenclature.—New names were being introduced into dermatology which were not destined to retain a permanent position, and while an essentially new disease required a new name, yet he offered a protest against the present neological craze. He suggested the propriety of introducing some subject for special discussion at the annual meetings.

Observations on Prurigo, Clinical and Pathological.—Dr. R. W. TAYLOR, of New York, read the paper. At the first meeting of the society Dr. Campbell read a paper on prurigo, and it appeared that only six cases had occurred in the experience of those present. New interest had been excited since the reading of Zeisler's paper on this subject last year, in which he gave accounts of twelve cases seen by him in Chicago. The combined experience of all present at that discussion included only eighteen cases. Dr. Taylor thought the disease more common in America than these statements would lead one to suppose. It was probable many cases escaped recognition and were classed as eczema, scabies pedicularis, ecthyma, impetigo, and even ichthyosis. This was due in part to the fact that there were no good plates representing the clinical aspects of the disease accessible to the general profession. He undertook to remedy this deficiency to some extent by giving photographs and a full description of a recent typical case, and also alluded to the casual concomitants and modifying conditions during the course of the disease. The patient was a healthy girl, aged nine, of healthy American parents, in good circumstances, healthful surroundings. When four years old she began to scratch, and the appearance of little red pimples on face, forearms, and legs led the parents to think they were due to mosquito bites. The disease had recurred every year up to the child's visit to the hospital in January of this year. The expression of the face was rather dull, the color of the typical white, somewhat ashy, hue of prurigo. Over the forehead, temporal region, and cheek was a copious eruption of small conical papules, some whiter than the skin, others of rather yellowish hue, and others capped with a blood-crust, the result of scratching. They were not developed on the site of sebaceous glands. There was no marked dryness or want of vitality in the hair as he had seen in severe cases; there was slight mealy desquamation in the scalp. As pointed out by Hebra, the eruption did not appear on the neck and nucha, but began to develop where the shoulder merged into the neck. The principal eruption was on the back of the hand and forearm and on the outer and anterior surface of the legs, where the papules were as large as a split pea; some on the arm, buttocks, and thighs. They were scattered without semblance of grouping, conical in shape, firm, some of the color of the skin, others of reddish hue, others capped with a blood-crust. Variations in the appearance of the disease were observed under certain complications, and shown in photographs. Sections had been studied under the microscope by Dr. Ira Van Giesen.

A Clinical Study of Pruritus Hemialis—Winter Itch, Frost Itch, etc.—DR. W. T. CORLETT, of Cleveland, read the paper. The affection under consideration was first pointed out as a disease *sui generis* by Dr. Duhring, and about the same time by Jonathan Hutchinson, since when it had been little written about. It is seldom seen save in certain localities; is seen in the Southern States only during cold waves, is seldom encountered in the clinics at London. On the southern border of Lake Erie, the writer's home being Cleveland, he could say the disease was well defined and not uncommon. He related three cases illustrating different points of interest connected with the disease. In one it had recurred during the frost season for over twenty-two years; in another the eruption had the appearance at times of urticarious patches, two or three inches in diameter, confined to the extremities, subsiding in about ten minutes, leaving for a while a dark yellowish spot. The third case was in a negro, showing that that race was not exempt. The writer's experience went to show that the state of the general health had no appreciable effect on the pruritus; that the local irritation of the clothing, although capable of aggravating the malady, was not of itself able to produce it; meteorological conditions appeared to be the main etiological factor. These were most potent with a low temperature, low humidity, and a wind blowing from the northwest. These influences were favorable to evaporation, and the low temperature reduced the glandular activity of the skin to the minimum. As a consequence the skin became harsh, the peripheral nerves were irritated and the disease was induced. He did not think the primary irritation could be central, else in time it would give rise to a less fleeting disease. It was not infrequently associated with other neuroses of the skin, these neuroses having, however, no influence save probably in showing the peculiar susceptibility of the nervous system.

The treatment was largely palliative. Change of climate was best, if possible. Internal medication seemed to have little effect. Locally he had used with advantage ichthyol and resorcin. Choose a warm and moist climate.

A Study on Pruritus.—DR. E. B. BRONSON, of New York, read a paper on "The Sensation of Itching" (see p. 425). He thought he was warranted in drawing the following conclusions: 1. That there is a sense of contact independent of the sense of pselaphesia. 2. That this sense of contact is the sense disturbed in pru-

ritus. 3. That it concerns primarily simple cutaneous nerves, or nerve-endings situated superficially and probably in the epidermis. 4. That the disturbance in pruritus is of the nature of a dysæsthesia due to accumulated or obstructed nerve excitation, with imperfect conduction of the generated force into correlated forms of nerve energy. 5. That scratching relieves itching by directing the excitation into freer channels of sensation, sometimes, especially when severe, substituting for the pruritus either painful or voluptuous sensations. 6. That the voluptuous sensations which may attend pruritus are a manifestation of a generalized aphrodisiac sense, representing a phase of common sensation that has its source in the sense of contact.

Cases of Cutaneous Tuberculosis, with Histological Studies.—Dr. J. T. Bowen, of Boston, read a paper containing the histories of a number of cases of cutaneous tuberculosis, together with histological studies, and expressed the view, also entertained by Dr. White, through whose courtesy some of the cases were seen, that several affections of the skin not yet recognized as inoculable would be proven to be so, and their relation to tuberculosis be demonstrated.

Remarks on the Treatment of Dermatitis Herpetiformis.—Dr. L. A. Duhring, of Philadelphia, said that the several papers published by him on dermatitis herpetiformis during the past five years had contained no reference to treatment. Having reported ten or twelve cases, it seemed appropriate to now speak of this exceedingly rebellious disease. Each group of cases based on the etiological factors at work required special handling. A speedy cure was not to be looked for. It must be remembered that the disease, as a rule, was multiform in character, and the several varieties naturally called for different formulæ, especially as to the strength of the remedy. His experience had been that milder remedies were called for in the erythematous than in the vesicular and bullous forms. A difficulty to contend with was the tendency of the disease to repeat itself, a new crop coming out before the older disappeared. Almost all his cases had been chronic, and previously undergone all manner of treatment. He had long since arrived at the conclusion that most benefit was to be derived from stimulating applications, especially those which acted as revulsives—tar, carbolic acid, sulphur, thymol, ichthyol, resorcin, etc. That which had proved of greatest value in his hands had been sulphur ointment, two drachms to the ounce, applied by thorough and long rubbing, so as to make a positive impression upon the skin, causing, as it were, local shock. Special emphasis was placed upon the manner of making the application. Internal remedies had proved of little avail in most cases.

A Case of Atrophia Maculosa et Striata following Typhoid Fever.—Dr. F. J. Shepherd, of Montreal, presented the history of the case, illustrated by photographs. It occurred in a boy, aged fifteen, who was brought to the hospital with typhoid fever. During the course of the disease he was delirious, and had epileptic attacks, macular lines formed, extending across the patellæ and around the anterior aspect of the thigh as high up as about the middle, some being several inches long. They were of reddish color, became paler, not distinctly shiny, and were grooved. The boy left the hospital without his knowledge. The interesting point in the case was the occurrence of the atrophic lines in a boy during acute fever. He did not think their presence could be accounted for, as they were in œdematous subjects, by stretching. There seemed to be a nerve element in the causation.

Immigrant Dermatoses.—Dr. J. C. White, of Boston, read a paper with this title. It included an account of the affections of the skin induced, 1, by life on shipboard; 2, those induced after arrival by conditions not existing previously; 3, diseases of the skin seen in other countries, but not in native Americans.

Conditions on shipboard tending to induce skin affections were mental depression on leaving home, seasickness, filth and foul air, constipation, inability to take exercise, contact with others having contagious disease. It was not uncommon for young persons to come a week or ten days after landing with an urticarial, bullous, or eczematous eruption. Vaccination on shipboard not infrequently left a local sore of wider area than usual, due perhaps to depressed state of health and the fact that the patient had not been revaccinated since childhood. Under the second head the causes were new agencies not existing at home, among them being, perhaps, mosquitoes. Under the third head, imported affections, the most common was scabies. Among others was that rare affection, melanosis lenticularis progressiva, none of the cases here, as far as he knew, being in native American stock. Prurigo might also be regarded as an imported disease, and was seen scarcely elsewhere than in cities with a large foreign population, like New York and Chicago.

The relative prevalence of vegetable parasitic affections among us was likely to be largely influenced by immigration. Tinea favosa, tinea trichophytina, tinea versicolor, were more common in countries from where we receive many immigrants than they are here. The same is true of tubercular affections of the skin, and he was disposed to regard lupus, scrofuloderma, scrofulous gummata, tuberculosis verrucosa, etc., as closely allied affections, inoculable and auto-inoculable. Leprosy was another imported disease, coming from many sources.

In conclusion the author suggested the propriety of memorializing the national Government with regard to carrying out the following measures: 1, To cleanse all immigrants of animal parasites on landing, by treatment of person and clothing; 2, to retain in quarantine all immigrants with other contagious diseases, including venereal affections, a sufficient time for treatment; 3, return to their homes all persons affected with such contagious diseases as it is impracticable to treat in such manner, as leprosy, tuberculosis, and advanced syphilis; 4, to provide for efficient medical inspection at foreign ports of immigration with the power of arresting importation of dangerous diseases to this country.

A Case of Second Infection with Syphilis, and a Case of Syphilitic Infection in a Person Hereditarily Syphilitic.—Dr. R. W. Taylor, of New York, gave detailed histories of the two cases, which had come under his observation within a year. The first was in a sickly looking woman, aged thirty-eight, who entered Charity Hospital in January last. Eleven years ago she had syphilis, having had hard swelling of the external genitals, enlargement of the glands, eruption shortly afterward all over the body, headache at night. The second year she had rheumatoid pains, mucous patches; the third year serpiginous syphilides, etc. She married and gave birth to two weakly children which soon died. Her husband dying, she again lapsed in virtue, and turned up in Charity Hospital in January last, broken down in health. There were typical miliary syphilides scattered over nearly the entire surface. All the ganglia were markedly enlarged. There were mucous patches of the tongue and mouth, and evidences of alopecia. She suffered pain in the joints, worst at night. The second attack was much more severe than the first. She was improving under mercurial treatment.

The second case was one of acquired syphilis in a person hereditarily syphilitic. The woman came to him first in 1879, aged nineteen, when he treated her for destructive syphilitic sore on the face, arising from hereditary syphilis, a clear history of which was afterward given him by her mother, who acquired syphilis three months before the child's birth. The child had a rash, condylomata cuta, sniffles, was weakly, etc. Five years after his patient's first visit, 1885, she returned, and had then macula roseola and scaling syphilides all over the body; condylomata of the genitals, mucous patches of the pharynx, etc. The infection began in the right labium, and was contracted from the husband. The glands were all en-

larged; there was alopecia. She had since been cured. The author reviewed and criticised published cases, which were few.

Electrolysis in the Treatment of Lupus Vulgaris.—Dr. G. T. Jackson, of New York, in a paper on this subject said the advantages which electrolysis offered in the treatment of lupus vulgaris, compared with other and older ones, were as follows: 1. It is comparatively painless, and there is no need of putting the patient under an anæsthetic. 2. There is not the slightest loss of blood, and thus there is no dread of a surgical operation. 3. The patient is not kept a moment from his regular business, there is no deformity caused by the treatment, there is no after-treatment or application to mar the appearance. He is also spared the discomfort of a swollen face and eyes, the ordinary attendant on the arsenical or pyrogallic-acid treatment. 4. The treatment goes to the root of the disease, to the bottom of the tubercle, with far more exactness and less damage to the surrounding skin than any other caustic or surgical method. 5. The scar left is smooth and not unsightly. 6. The result obtained is as good as, if not better than, that by any previous method. He felt sure the members would have cause to be pleased with the method should they give it a trial.

Plica.—Dr. H. W. Stelwagon, of Philadelphia, showed photographs of a case which he saw a few months ago. He was not sure that plica was the right name for it. The woman, Irish, came to be treated for acne, and called his attention to a lock of hair, as thick as one's thumb, springing from the middle of the occipital region, closely matted together, and falling as low as the ankles, terminating in a brush-like end. It was not sticky, had begun to grow four years before, had no apparent cause. The rest of the hair fell over the shoulders and was not matted. There was absence of filth.

The Treatment of Erysipelas.—Dr. C. W. Allen, of New York, based this paper on the results of treatment during the past two years of 419 cases in the hospitals on Blackwell's Island, not under his care, and 47 cases in his own practice during the same time. Of the former, 21 died; average stay, twenty-two days; facial erysipelas in 267. Of his own 47 cases 24 were facial; deaths, 4; average stay, over seven days. The treatment employed was various, but was principally local, consisting in applications of different kinds. Dr. Allen thought that, although tending to pursue a definite and usually favorable course, the disease could be checked in its course by treatment. Among the applications were boracic acid, iodine, resorcin, bicarbonate of sodium, ichthyol, collodion, aristol, scarification with the knife, and plaster strips encircling the limb. He was disposed to think favorably of scarification and adhesive plaster, separately or combined in the same case, but had tried them in only about two cases.

Notes on Pilocarpine in Dermatology.—Dr. H. G. Klotz, of New York, in this paper first gave a review of the history of pilocarpine in dermatology, and said it had not met with the acceptance which one might have supposed if its therapeutic virtues had been at all proportionate to its diaphoretic qualities. The author had employed this remedy in a few cases, including some of eczema, pruritus of the anus, and affections with dryness and irritation. The result had been such as to encourage him to give it a further trial. It might be given internally, or by hypodermic injection—small doses, long continued. A tenth of a grain was likely to prove sufficient to keep the skin moist.

Aristol.—Dr. C. W. Allen, of New York, read a paper giving the results of his experience with this new remedy, and summed up with the statement that it seemed to possess valuable cicatrizing, granulating, and stimulating qualities, was void of the objectionable odor of iodoform, and seemed valuable in certain dermatological cases.

Results of Treatment of Dermatological cases by Sulphur-water at Richfield Springs.—Dr. C. C. Ransom, physician in charge of the new bathing establishment, by invitation gave the results of treatment of dermatological cases there. Since the new bath had been completed during the summer twenty-two cases had been treated, including nine of eczema, one of psoriasis, four of seborrhœa, one of pruritus, two of urticaria, etc. There was marked improvement in nearly all of these cases, and in some a cure. The baths were of a temperature usually from 95° to 106° F., lasting from seven to fifteen minutes. A longer stay in the sulphur bath had a depressing effect lasting some hours.

The Association adopted resolutions, expressing appreciation of the very extensive and complete equipment for water treatment established by Mr. Proctor at the Springs.

Among those taking part in the discussions on the papers besides the readers named were Drs. Hardaway, of St. Louis, J. E. Graham, of Toronto, and James S. Howe, of Boston.

Officers Elected.—*President*, Dr. F. B. Greenough, of Boston; *Vice-President*, Dr. L. N. Denslow, of St. Paul; *Secretary and Treasurer*, Dr. G. T. Jackson, of New York.

THE MEDICAL SOCIETY OF VIRGINIA.

Twenty-First Annual Session, held at Rockbridge Alum Springs, Va., September 2, 3, and 4, 1890.

About one hundred and fifty members were present during the session. The membership of the Society is about eight hundred. The annual addition (as it was this year) to the membership is about fifty, exclusive of the losses by death, etc.

After prayer by Rev. Dr. Garrison, of Philadelphia, Pa., and the "Address of Welcome" by the resident physician and an honorary fellow of the Society, Dr. J. Edgar Chancellor, of the University of Virginia, Dr. John S. Apperson, of Marion, Va., delivered "The Address to the Public and Profession."

The committee appointed to examine the several essays offered in competition for the Dr. Hunter McGuire prize of one hundred dollars for the best original essay on the "Diagnosis, Pathology, and Treatment of Chronic Cystitis in the Male," reported that the prize had been awarded for the essay signed "*Causa Cessante, Cessat Effectus.*" On opening the sealed envelope of the letter, the author was found to be Dr. R. M. Slaughter, of the Theological Seminary, Va. As soon as the award of the prize was made, the announcement was authoritatively made that Dr. Hunter McGuire would offer another one-hundred-dollar prize, to be awarded next year to the practitioner in Virginia, West Virginia, or North Carolina, who would write the best essay on a subject to be hereafter announced through the office of the Secretary of the Society.

During Wednesday morning session the President, Dr. Oscar Wiley, of Salem, Va., delivered "The Address of the President," which was mostly of local or Virginia interest. Immediately succeeding this address the subject for general discussion, "Summer Diarrhœa of Children," was called, and lasted over into the night session, thus indicating the degree of interest manifested in the subject. But while every paper and every speech confirmed an old truth, and was well listened to, nothing seems to have been developed by the discussion which is not now common property of the profession.

Election of Officers.—During the afternoon session the following officers for the ensuing year were elected: *President*—Dr. William W. Parker, of Richmond, Va.; *Vice-Presidents*—Drs. J. W. Dillard, of Lynchburg, Jacob Michaux, of Richmond, and H. M. Patterson, of Stanton; *Recording Secretary*—Dr. Landon B. Edwards, of Richmond, Va.; *Corresponding Secretary*—Dr. J. F. Winn, of Richmond, Va.; *Treasurer*—Dr. Richard T. Styll, of Hollins, Va.; *Chairman of Executive Committee*—Dr. Hunter McGuire, of Richmond, Va.; Dr. Charles M. Blackford, of Lynchburg, Va., to deliver "The Address to the Public and Profession" during session of 1891, to be held in Lynchburg, Va., some time during month of

October. Subject for general discussion during session of 1891, "Acute Dysentery;" Leader, Dr. P. B. Green, of Wytheville, Va. To fill vacancy on Medical Examining Board of Virginia, from the Norfolk Congressional District, Dr. Alfred C. Palmer, of Norfolk, Va.

Advances in Ophthalmology.—Dr. Robert L. Randolph, of Baltimore, Md., Chairman of the Section, reviewed two articles, one by Professor Graefe, of Halle, the other by Steffan, of Frankfort, on antisepsis in the operation for cataract. The reviewer inclines to the arguments of Graefe, who upholds the value of antisepsis, in opposition to Steffan, who regards the method as useless. Dr. Randolph spoke of the new treatment of detached retina by the injection of tincture of iodine. He emphasized the value of fluorescein as a means of diagnosing lesions of the cornea, and mentioned some experiments of his own and of Kalinski in connection with the production of cataract in the lower animals by feeding them on naphthalin.

Advances in Laryngology and Otology.—Dr William F. Mercer, of Richmond, called attention, 1, to the conclusions of Semon in his investigation in regard to the transformation of benign growths of the larynx in consequence of intralaryngeal operations. 2. The early treatment of naso-pharyngeal and throat affections in young growing children as a cure or prevention of certain derangements of the nervous system and impairment of the intellectual power existing or shown later in life. 3. Nasal intubation as an easy and ready mode of cure in hypertrophy of the soft intranasal tissues, deviations of the cartilaginous septum, fractures, etc. 4. The easy and certain means or diagnosis of empyema of the antrum of Highmore by the illumination of the maxillary bones by an electric lamp introduced into the mouth, and the importance of perfectly free drainage.

In the branch of otology he calls special attention to the great importance of the early recognition of, and treatment for, acute suppurative otitis media following scarlatina, thereby greatly reducing the high percentage of deaf-mutism from this cause.

Dr. Joseph A. White, of Richmond, Va., read an excellent paper on "The Importance of Nasal Surgery and Nasal Therapeutics in the Treatment of Aural Catarrh;" and he presented another paper on the "Relations of Refractive Errors and Muscular Defects in Asthenopia, Ocular Headaches, etc."

Operation for Cataract and Strabismus in Children.—Dr. Charles M. Shields, of Richmond, presented a paper on this subject. As to the best time for operation for cataract in children the text-books have little to say, and as a large proportion of the cases were zonular and allowed some vision, the operation was generally put off until better vision was needed for educational purposes—ten to thirteen years. At this age the retina has often lost its functional activity from disuse, and the results of the operation are unsatisfactory. His last five cases were cited in support of the argument for early operation. Three of them were between the ages of ten and thirteen, and although the operation itself was successful and a clear pupil obtained, the visual results were not satisfactory. The other two cases were much younger—one three years the other six months. Both were needled and gave the most satisfactory results. Dr. Shields thought the earlier the operation for cataract in children the better the results, for the following reasons: First, In the young the eye is more tolerant of surgical procedures; second, the child is given the advantages in gaining education that vision secures; and thirdly, the permanent visual results are better than would be obtained at a later age.

As to the age for operation in strabismus, Dr. Shields thought that usually suggested (six or seven years) early enough in alternating squint, as vision in either eye does not suffer from delay, both eyes being alternately used; but where strabismus is confined to one eye, the monolateral form, the earlier the patient is operated on the better.

In this form of squint vision is constantly suppressed in one eye and amblyopia from disuse results, making the eye useless. The operation should be performed in the monolateral variety as early as it is recognized.

Treatment of Strabismus.—Dr. Alexander Duane, of Norfolk, furnished a paper on the "Modern Treatment of Strabismus." In it he contrasted the superiority of the modern precise tests and of modern technique over the old hap-hazard way of operating, and urged the necessity of making the tests both with prisms and by the parallax and excursion movements during and after the operation, and of limiting or redressing the latter, according to the results thus obtained. After a brief sketch of the varieties of squint, in which he followed very closely Mauthner's classification, he went on to the question of operative treatment. In concomitant strabismus he strongly separated the cases with relaxation of the tendons, which demanded advancement, from cases with excess of tension, requiring tenotomy. A remarkable instance of the first class was given, which was markedly benefited by advancement even when that operation seemed on *a priori* grounds to be calculated to increase the deformity. In paralytic squint tenotomy of the associated antagonist, according to Alfred v. Graefe's rule, was recommended wherever practicable; but in paresis of the superior and inferior rectus advancement of the paretic muscle was indicated. In three hundred and fifty eye cases, the author had seen two of paresis of the superior oblique, one of which was markedly improved by operation.

Otitis Furunculosa.—Dr. John Herbert Claiborne, Jr., of New York, presented a communication entitled "Otitis Furunculosa" (Boils in the Ear).

He summed up his conclusions in the following way: 1. Furunculosis of the outer ear is a local disease. 2. The cause is the transmission by rough means, beneath the skin, of pyogenic microbes. 3. The prognosis is good, both as to the life and hearing of the individual. 4. The treatment consists in local antisepsis (solutions of boric acid, carbolic acid, etc.), moist heat, and incision of the furuncles when they point.

Catarrhal Otitis Media.—Dr. Laurence Turnbull, of Philadelphia, Pa., read by invitation a paper on "Aural Catarrh," which treated mostly of the results of the disease. He says, in passing, that most of the so-called hearing restorers act most injuriously upon the sensitive ear, and are of no benefit except to those having a hole or perforation of the drum-membrane, or to those who suffer relaxation of the small bones of the ear, which become sometimes separated from the membrana tympani. In many instances they have acted as a foreign body; and when they have a metal stem, as is often the case, they are sure to set up a "running ear." The only form of artificial covering to the diseased perforation of the drum-membrane should be a delicate gauze or rubber, charged with an antiseptic solution, to protect the ear from the floating microbes in the air, and from temperature changes. He then detailed at length a correspondence with a patient who had tried to use some of the artificial aids referred to. In addition to the measures recommended in his book for such a case, he advised massage to the ears, and valerianate of strychnia for the nervous debility of the patient; and as to hygienic rules, he advised a life in an elevated region, dry house, woollen underwear, and the use of a small piece of wool in the ears when out driving, etc. Do not let water get into the ears.

Lifting the Epiglottis.—Dr. C. M. Blackford, of Lynchburg, presented a paper describing "A New Method of Lifting the Epiglottis, devised by Dr. Samuel P. Preston, of Lynchburg." The instrument used consists of an ordinary laryngeal silver probe, with the last half-inch bent so as to make a right angle with the remainder. Rings are soldered on the shaft of the probe, through which the third and fourth fingers of the left hand are passed. Introduce the probe, and let the bent portion press down on the glosso-epiglottidean ligaments. This pressure

tightens the ligaments and thus lifts the epiglottis. This instrument is used in the Throat Clinic in Vienna. By holding the laryngeal mirror with the thumb and forefinger of the left hand, with this elevator between the third and fourth fingers of the same hand, the right hand is left free for use. The pressure of the probe is not great enough to cause retching, and does not cause special inconvenience to the patient.

Palpo-traction.—Dr. Alfred C. Palmer, of Norfolk, read a paper in which he described a new form of treatment which he had been using upon the lids of infants, which he termed "palpo-traction." It consisted in manipulating the lids of the new-born, while the tissues are in a pliable state, for the correction of tendencies to entropion, ptosis, etc. He reported a case in which the lower lid of infant contained a fold of surplus skin that lay along the roots of the lashes, which sooner or later, in his opinion, would have caused them to become inverted upon the ball; but by creasing the skin lower down on the surface of the lid, and holding it for five minutes for some days in succession, he succeeded in establishing a fold in its proper place out of harm's way. He called the attention of obstetricians to the importance of making careful examination of formation of lids of the new-born.

Dr. L. H. Keller, of Luray, read the "Report on Advances in Materia Medica, Therapeutics, etc.," in which he called attention to forty-three recently introduced drugs or preparations.

The Diagnosis of Pelvic Disease; or, When to Operate.—Dr. I. S. Stone, of Lincoln, read a brief paper in which he endeavored to show the chief points of diagnosis in the pelvic diseases of women, laying especial stress upon the indications for operative treatment. He claims that the profession is practically a unit upon the surgical treatment of pelvic and abdominal tumors, as well as extra-uterine pregnancy and pyosalpinx when recognized. The treatment of these conditions by electricity is not only barren of good results, but is hazardous in itself, and leaves the case still more difficult to deal with when operation is resorted to. The author regards salpingitis in rural districts as quite a common occurrence following puerperal cases, its symptoms so closely resembling pelvic peritonitis and cellulitis as to render diagnosis impossible. This salpingitis is the same as that seen in the cities, with the difference that gonorrhœa, being rare in the country, infection rarely occurs; consequently pyosalpinx is not so frequently seen. These cases of salpingitis frequently recover without leaving a trace of disease to be ascertained by vaginal examination. After urging positive views upon the treatment of these cases of pelvic disease, the writer thought it of far greater importance to decide not to delay operation than to try and name the disease after it was plainly one resisting ordinary treatment and necessitating exploratory section. The extent of the disease, the complications arising during operation, which are impossible of definition before, are the real dangers of the operation, and are often the positive obstacles to their successful treatment by any other than heroic measures.

Tubercular salpingitis also received attention, and the point was well taken that many cases of mysterious pelvic disease in young women are to be explained by properly investigating their cause. It was suggested that these cases are frequently aggravated after marriage, and that when no possible blame could be attached to the husband.

In response to invitation to open the discussion, Dr. George Tucker Harrison, of New York City, said that Dr. Stone had left but two points which he thought proper subjects of criticism. Dr. Stone seemed to look upon puerperal malarial fever as a disease of very minor importance. Dr. Fordyce Barker, some years ago, drew prominent attention to this subject. It is not a rare disease by any means in some localities. For instance, it is quite a common complication or sequel of labor in New York City. But it is not always easy to trace the development of the disease to the proper cause. It undoubtedly belongs to the puerperium. In a case recently under his care, delivery was conducted under the most perfect aseptic principles, and yet, about a week after labor, puerperal malarial fever set in, and lasted seven weeks. Incidentally, he remarked that rheumatism is a frequent sequel of puerperal malarial fever. As to removal of the uterine appendages, etc., lately the operation has become much abused. Novices, as well as specialists of high and low degree, are performing laparotomies with a recklessness that calls upon the profession to demand a halt. He cited an instance under his advice where laparotomy was advised by a specialist under the erroneous diagnosis of pelvic structural disease, instead of normal pregnancy, as the case proved to be. Of course laparotomies are demanded in certain selected cases, but he condemns the popular wholesale removal of ovaries, etc., and thinks their causeless removal should be rebuked as severely as was Baker Brown for his wholesale removal of clitorides years ago. It should not be forgotten that mental derangement, even, has followed the removal of the sexual organs of the female. It is a difficult matter to decide in most cases when to operate; and no one should undertake so radical an operation until after the exhaustion of every possible means of relief, unless, of course, the diagnosis of incurable structural disease of the ovaries or appendages is apparent. Extra-uterine pregnancy is about the most important subject that can claim the attention of the obstetrician, as well as the laparotomist. The condition is too often not recognized until too late to render service by surgical means. The diagnosis should be made early in order that the operation may save life. Tait is all wrong as to his pathology of extra-uterine pregnancy. He confounds hæmatocele and hæmatoma with extra-uterine pregnancy. Hæmatocele is an effusion of blood into the peritoneal cavity, about Douglas's cul-de-sac. Hæmatoma is an escape of blood into the folds of the broad ligament alone. But in extra-uterine pregnancy of the tubal variety, after the probable cessation of one or more menstrual periods, there is often an irregular hemorrhagic discharge per vaginam, which very generally precedes rupture of the tube by several days.

Dr. Joseph Price, of Philadelphia, Pa., wished to emphasize Dr. Harrison's remarks as to reckless and unnecessary laparotomies. The operation has been too much overdone. It should be done only for an objective disease, not for a subjective disease. More of this work has been done in New York than anywhere else, and there it has undoubtedly been often abused. Furthermore, many operations that ought to have been well done have been imperfectly done; and such operations bring discredit upon surgery. The mortality resulting from laparotomies for ovarian, tubal, or uterine diseases has now been reduced to about two per cent. The time has come when simply opening the abdominal cavity for surgical purposes should never result fatally. This is proven by the results thus far had from McGuire's suprapubic cystotomy.

Dr. Price then exhibited some drawings made by Dr. Coe which are very unfortunate. He draws a pus tube nine inches long. If pus in the tubes can be diagnosed, cut for it. In other portions of the body pus cavities would be opened by any surgeon. Why, then, not open a tube filled with pus? He pointed out a number of misleading points in Dr. Coe's plates and in his methods of operating. Extirpation of the ovaries, tubes, etc., should have for its object to save life. He has generally found that the country doctor was right in his diagnosis of the condition which required the laparotomy; hence he had but little to do other than to operate in cases of patients sent him from the country. He would advise that all forms of fibroids—even if not larger than a hen's egg—be extirpated. The results of operations for such removals have been most encouraging, and have made the mortality from such operations very small.

Another point Dr. Price wished to insist upon is to ex-

ercise the greatest possible degree of caution as to tampering with the uterus by intra-uterine medication and examinations, etc. Emmet says he has not passed a uterine sound for fifteen or twenty years. Treatment of the intra-uterine diseases should be conducted on the most conservative gynecological principles. Undoubtedly there are some intra-uterine diseases which should be treated locally; but he never dilates a cervix to enter the uterus—he is afraid to do so. And the reckless use of electrical treatment of uterine diseases has also produced many diseases which later required the skill of the surgeon. He has been called upon a hundred times to open the abdomen because of the after results of electrical treatment, and the same may be said of the results of operations for forcible rapid dilatation of the uterine neck. More prominent attention should be given to the the subject of gonorrhœa in innocent wives as the cause of many of their surgical diseases. The ravages of this disease in women are twice as great as by small-pox.

As to extra uterine pregnancy, Virginia has a right to be proud of her gifts to the army of obstetrical surgeons. Bingham, of that State, about a hundred years ago, did the first scientific operation for extra-uterine pregnancy. He also did the second scientific operation for extra-uterine pregnancy, nine years later. Dr. Price consumed the rest of his time in showing some plates, drawn by him from nature, illustrating ovarian and tubal pregnancies. In his large experience he has found rupture of the tube to occur almost invariably near one of the fimbriated extremities. As to simple ovarian abscesses, he has removetl more of them than he has been able to find collected in all the books on the subject.

Dr. Hunter McGuire, of Richmond, remarked that Dr. Harrison said that Fordyce Barker was the first man to call attention to, and name, puerperal malarial fever. He asks to correct this. The late Dr. Otis F. Manson, of Richmond, was the first one to describe and designate this condition, and Dr. Barker had recognized this claim to priority. Dr. Price had said that the man who employed a sound or made intra-uterine medications ought to have his head shaved. If for every one that he (Dr. McGuire) had made he had a strand of hair removed, he would be bald-headed. Dr. Battey is a great surgeon and a good man, and was the pioneer in important surgical work, but Battey's operation for normal ovariotomy would become obsolete. In Dr. McGuire's opinion it was a crime to take out normal ovaries for any nervous or hysterical condition. Some years ago he had done it, but he regretted it; it did no permanent good. When there was some pathological change in the ovaries or tubes, then, after failure by other means, the operation should be done, but all other means should be first exhausted. He himself had gotten much good in these cases out of galvanism. He did not agree with Dr. Price that all fibroids should be removed. In nine out of ten of the cases that came to him he advised the patient to let the tumor alone. If the growth was stationary, or nearly so, giving rise to no pain or mechanical obstructions, he would let it alone. If the gentleman knew how common fibroids were in the negro, and how many hundred negro women were working to day with fibroids of the uterus, in no way disabled for work by the tumor, he would not advise an operation in all cases.

Dr. Joseph Hoffman, of Philadelphia, Pa., said that until Emmet arose, only a few years ago, and protested against the hasty sewing-up of perineums and uterine cervices, etc., these operations were greatly abused. Battey's operation has proved a failure, and will be done away with. Others think that all forms of women's diseases are essentially cellulitis; but in ninety-nine cases out of one hundred this is a mistake. Tait has done nothing more than revive the pathology of forty years ago, and he evidently got it from Nonat, who fully discussed the subject as a peri-uterine and lateral phlegmon about 1846. Surgery ought to be resorted to only for the purpose of relieving pain or saving life. To puncture a pus-tube with the hope of curing it is idle, because tubal pus cavities are like the links of sausage. Hematocele is very rare; but Mr. Tait says when it does occur it is often mistaken for extra-uterine pregnancy. Exploratory incisions should be used only as guides for the surgeon to see whether or not he can cure a given case. Never cut down on an abdominal abscess or tumor and half finish the operation. Such half-finished operations injure surgery in professional esteem. Curetting the endometrium is bad practice. Under modern modes of procedure laparotomies are comparatively devoid of danger. Exercise common-sense in the selection of cases for operation. Don't think that because the operation is abused by some, it is totally unjustifiable in certain cases.

Dr. Edwin Ricketts, of Cincinnati, O., said that the field had been so well covered by the preceding speakers that he had nothing to add to the discussion. But the discussion of this very subject at this place reminded him that the immortalized McDowell was born in this county (Rockbridge). In 1809 he did his first ovariotomy. He then proceeded to give a brief history of McDowell and of the operation. It took years to establish the operation upon the plane of scientific recognition; but now the tendency in some sections is as much to abuse the operation as to resort to it solely for the promotion of the interests of the patient. Discredit comes upon the profession and upon surgery when the surgeon fails to make his diagnosis clear, and fails to return some degree of benefit as a compensation to the patient for submitting to so grave an operation.

Extra-uterine Pregnancy.—Dr. Isaiah H. White, of Richmond, spoke of the importance of early diagnosis and prompt treatment in cases of extra-uterine pregnancy. The physician's first intimation of such a condition, however, is when he responds to the hasty call to attend his patient in collapse, evidently due to peritoneal rupture. But if the patient rallies and gets well from the effects of the rupture, and if the fœtus becomes encapsulated, etc., the extra-uterine pregnancy may remain for years in a quiescent state—the fœtus, of course, being dead. In fact, he had attended a woman where the extra-uterine pregnancy had remained in a quiescent state for several years, and would probably have so remained for as many more, had not the woman become pregnant again. But the new pregnancy lighted up fresh peritoneal trouble—suppuration—and soon demanded his surgical attention for removal. He has either heard or known of many such cases. Some cases, indeed, of extra-uterine pregnancy are not known to exist until after death from other cause than the extra-uterine pregnancy. Such histories suggest that where extra-uterine pregnancy may be reasonably suspected, and yet not proven, it may be well to court safety by passing a sufficient galvanic current through the mass supposed to be an extra-uterine pregnancy, to kill the fœtus, before the period for peritoneal rupture to take place, and then leave the developments for future consideration and action. The well-known laws of nature to accommodate itself to the gradually developed abnormal state of affairs may lead to the final delivery of the fœtus, bone by bone at a time, by self-protective ulcerations, through the rectum, etc. But when an operation is decided upon, what are known as the remnants of an extra-uterine conception are most probably altogether the products of the inflammatory action set up at the time of the passage of the fœtus through the rent in the tube into the peritoneal cavity. As to the strictured portions of pus tubes which have been referred to, and which give to the canal the appearance of rolled sausage, as seen at the butcher's stall, they are due to adhesive perimetric bands formed around the tube as the result of the pelvic inflammations. As to so-called "normal ovariotomy," Dr. McGuire is undoubtedly correct in deploring the results obtained, and in his determination never to undertake the operation again unless it is evident that there is structural disease of the ovaries. It is not too much to suppose that many survivors of the operation

itself regret that they are alive. Dr. White joined in the chorus with the other speakers in sounding the voice of extreme caution as to intra-uterine examinations, medications, curetting, etc.

Operative Treatment of Reflex Neuroses.—Dr. Landon Carter Gray, of New York, in response to a call for remarks on the subjects under discussion, said that in this enlightened day he regarded the further resort to "Battey's operation" for the wholesale cure of nervous diseases of the female as a crime. Baker Brown, years ago, was properly expelled from fraternal relationship with the profession of his country because of the almost numberless useless clitorodectomies he performed. Some experience and publications of Dr. Lewis A. Sayre, only a few years ago, led the profession into the unnecessary practice of cutting off prepuces for the relief of certain nervous troubles. Stevens should have been commanded a halt in the cutting of eye muscles for the so-called cure of chorea and other nervous troubles which were not relieved thereby. All such procedures are proven to be failures when recommended or resorted to as surgical panaceas. In almost all the cases where such operations have been resorted to for the cure of nervous diseases, unless there were more distinct occasions for such mutilations, even when relief did seem to follow, it has been shown that such relief was only temporary; and even this result could be more satisfactorily accounted for on the known therapeutic laws of strong mental impression than upon the direct benefits of the several operations themselves. On this principle "normal ovariotomies" have undoubtedly for a while given apparent respite from attacks of hysteria, epilepsy, etc. But sooner or later, in all the cases that have come under Dr. Gray's observation, the attacks have returned and become severer, and the patients have become more piteously invalided by the very reason of their castration. As long ago as 1828 this principle of mental impression was put to scientific tests by Esquirol. He divided numbers of epileptics into groups. To one group he gave one class of remedies, with the adjuvant of strong mental impression as to the benefit to be derived from the so-called "new treatment"; to another group of cases he gave another class of medicines; and to another group another class of medicines still; and to another group he gave simple colored water, etc. Each group of cases did equally well for a time, but soon relapses began and all went back to their former states of severity. Up to the present time no remedy has stood the test of trial in doing permanent good in epileptic diseases except it be the bromides. Undoubtedly operations are more beneficial when performed upon the strongly impressionable class of patients; but even then it is best to select that form of operation which the patient herself believes will be best for her own relief. Simple incisions, as if the operation had been performed, and leaving the patient to come out from under the anæsthetic to persuade herself that the operation had been thoroughly performed, had done as much good as the real operation of normal ovariotomy.

Dr. William W. Parker, of Richmond, Va., was surprised that the publications of one or two distinguished men in the profession, who had probably seen the results of some reckless intra-uterine medication or rough examinations should drive practitioners to give up the valued lessons of their experience. Of course gentleness and judgment are required in resorting to intra-uterine examinations and medication. In a large practice since the war, he has almost daily made such examinations and treatment, and he is yet to hear or believe that any harm has resulted. On the contrary, he has thus diagnosed and cured numberless cases that no doubt would have been in the hands of "specialists" had he done otherwise. Intra-uterine injections are perfectly safe if the usually recommended precautions are faithfully observed.

Dr. Harrison, as a personal explanation, said that he was not so wholly opposed to "Battey's operation" as his remarks might have led some to believe. He had seen some serious cases of nervous troubles permanently relieved, if not cured, where the ovaries were only moderately diseased, so far as could be detected after their removal. But Dr. Battey's original error consisted in naming his operation "normal ovariotomy." He thinks Dr. Battey justly entitled to the thanks of woman, and to the praise of the profession for having pointed out an overlooked field for future and thorough gynecological study.

Dr. Stone, in closing the discussion, thought it proper to remark that Dr. Barker's puerperal malarial fever is often nothing but the evidence of the existence of pus in the Fallopian tubes. He would not, however, undertake to deny that there is a pure puerperal malarial fever, as Dr. Manson had described prior to Dr. Barker's mention of the subject. As to Battey's operation, he never did but one, and the result was unsatisfactory. Hence he stood simply as an interested listener of the remarks that have been made to-day by gynecic surgeons and practitioners of such large experience and extensive reputation whose dicta will go far to shaping or establishing subsequent professional opinion on the subject.

Vertigo.—Dr. Landon Carter Gray, of New York, read a paper on this subject. He said that an important generic distinction between vertigo of organic disease and that of a functional nature is that the former is attended by less irritability and apprehension on the part of the patient than the functional form. Kidney, heart, and organic liver troubles cause slight vertigo, lasting only a short time. In vertigo due to kidney disease the headache sometimes disposes to hebetude or coma, occasionally convulsions; there may be œdema also. In vertigo of organic liver disease there is usually some degree of hebetude, or jaundice, or dropsy. Vertigo due to brain lesions will prove pathognomonic. Thus cerebellar vertigo causes titubation, or one-sided staggering gait, or sudden semicircular whirling. According to Dana, temporal lobe lesions may produce like symptoms. Spinal lesions are not apt to cause more than slight vertigo; in locomotor ataxia dizziness may occur when the patient's eyes are closed. Middle-ear and labyrinthal diseases also cause vertigo.

But there is a chronic vertigo, varying from a sudden sensation of loss of equilibrium to dread of going about, often attended by symptoms of other nervous disturbance, such as tingling of extremities, fulness about head, usually felt most at the vertex, with slight aural ringing, mild insomnia, irritability, etc. It is most common in young and middle-aged adults, and is most frequent in Northern climates in the first warm months of the year. In severe cases, even going from a cold into an over-warm room will induce an attack. Neurasthenia is common. Tongue is usually unaffected, but there is generally an excess of uric acid or oxalate of lime in the urine. Hence Murchison gave to this symptom-group the name lithæmia. But Dr. Gray said many cases do not present evidence of liver trouble; nor is there a standard by which to judge of an excess of uric acid in the system; and again, cholagogues often aggravate the vertigo as well as nervous symptoms. He said that generally this peculiar form of vertigo is due to some chronic and persistent error of digestion—either of the nitrogenized or starchy elements of food, or of both. Constipation without coated tongue or foul breath is common in this form of digestive disease. Predispositions to gout or rheumatism seem to cause such trouble; but the exciting causes of the vertigo are mental or physical overstrain, great anxiety, malaria, very sedentary life, etc.

Therapeutically, in those not having neurasthenia, he gives twenty drops of dilute nitro-muriatic acid, before meals, in a wine-glass of water, and also one drachm of fluid extract, or two grains of solid extract of cascara sagrada three times daily, reducing the dose if it causes more than two feculent stools a day. Interdict all red

meat diet. In about ten days the patient will feel better generally, but the vertigo will still be unaltered. Then stop the acid, and, instead, give the best pepsine and pancreatine—pepsine immediately after meals, and pancreatine an hour and a half later. After a time gradually return to meat diet, but only once a day. In neurasthenic cases, in addition to this treatment, require the patient to take absolute rest—even sometimes in bed for two or three weeks. It is better to err on the side of enforcing too much than too little rest in these cases. In so radically differing from others with reference to the treatment of this chronic form of vertigo, he has only to say that his experience has taught him to so differ.

DR. WILLIAM W. PARKER agreed with Dr. Gray that the cause of the vertigo was mostly of a dyspeptic character, and hence a very rigid diet is the essential element of treatment.

DR. HUNTER MCGUIRE said that after a great deal of study of cases of vertigo of the chronic kind, so well described by Dr. Gray, he had come to the conclusion that they were typical of a form of lithæmia, and that they originated in some derangement of the portal circulation. He had noticed that if the liver keeps on acting well—to use the common form of expression—the vertigo does not occur. Such inaction of the liver in these cases is not always manifested by the characteristic furred tongue, etc., for that may be red and moist, while the fecal discharges may show a grayish or putty look. But there is always evidence of some form of gastric or bowel fermentation. He has derived benefit from a somewhat continuous use of cholagogue purgatives, so as to get two or three feculent actions a day, and then by the prolonged use of minute doses of bichloride of mercury, short of ptyalism. He keeps it up in doses of from one-sixty-fourth to one-eighteenth of a grain, three times daily, for a period of a month or more. Then he gives a perfectly neutral solution of extempore prescription of the hypophosphites of lime and soda. He is afraid to depend upon any of the prepared sirups of the hypophosphites on the market in such cases.

DR. ISAIAH H. WHITE is satisfied that the form of vertigo described is an expression of lithæmia, or else that it is due to some of the other products of waste which are not properly eliminated from the system. It is possibly due to the development of ptomaïnes.

DR. HUGH BLAIR, of Richmond, Va., had long since come to the conclusion that the form of vertigo described is due mostly to lithæmia, and that lithæmia is but another expression for gout, and that it is all due to disordered fermentative digestion, due to the imperfect liver action.

Permanent Drainage of the Male Bladder by a Retained Cannula introduced above the Pubes.—DR. GEORGE BENJAMIN JOHNSTON, of Richmond, read a paper with this title. He said that Dr. Van Buren had devised the best instrument for the purpose that he knew of, consisting of an outer cannula, an inner tube, and a trocar. After quoting descriptions of these, Dr. Jonnston stated that he had added to this instrument a steel guide, double the length of the trocar, over which the outer cannula may be easily drawn out of the bladder and replaced without fear of losing its course. After describing the simple operation of entering the bladder above the pubes, and how to retain the instrument, he remarked that both acute and chronic cases are benefited by the proposed treatment. Conditions so benefited are urinary retention, injuries of the urethra or prostate, acute prostatitis, perineal abscess, urinary extravasation, coagula in the bladder, chronic cystitis, enlarged prostate, or cancer of this gland or of the bladder, urinary fistulæ, sacculations, adynamia, etc. After pointing out nine distinct advantages of the operation, he gives a paragraph of cautions to be observed in performing the operation, etc.

The Present Status of Abdominal Surgery.—DR. JOSEPH PRICE, of Philadelphia, Pa., read a paper on this subject. The abdominal surgeon should be prepared for the unexpected—for packing the whole pelvis or for removing a kidney or the uterus. Hence he should be a specialist. Vaginal puncture is a dangerous procedure, because it cannot be predicted what organs are involved in the abscess wall, or the abscess may be multiple, etc. Nearly every pelvic abscess takes its origin from a diseased tube or ovary. Hence the abdominal incision is best. To remove fibrocysts of the uterus, if carefully performed, shuts off the peritoneal cavity from the surrounding tissues, a technique which must be freed from every loophole of error. The great essential in the instrumental technique of the operation is the use of the clamp or *serre-nœud*. To the clamp belongs the credit of giving to hysterectomy its acknowledged position. By its use he has performed twenty-seven hysterectomies without a death. Each stump must be made according to the exigencies of the case. In general, free the bladder, save the peritoneum, dissect out the tumor until sufficiently free to engage it with a clamp. As to the after-technique, close the pelvic peritoneum, and embrace the stump by the parietal peritoneum, so as to close off the peritoneal cavity absolutely. The mortalities of dabblers in abdominal surgery should not be considered. The Porro operation is preferable to the Cæsarean. As to ectopic pregnancy, operate as soon as the condition is discovered. He has had now an operative experience of thirty-eight cases, but has never seen an intraligamentous variety of this condition. Always remove the placenta when possible. If compelled to leave it, empty it of blood, make it as dry as possible, tie the cord close, and tie the stump. The peritoneum will probably digest it. In all cases of prolonged operation, especially in threatened shock, and after hemorrhage, and in the presence of pus and *débris*, the value of flushing out the cavity with moderately hot water is beyond question. In those cases characterized by overwhelming quantities of pus there is no need whatever of using antiseptics. Pure or distilled water thoroughly cleanses the abdomen, lowers temperature, slows the pulse, etc. In all abdominal surgery germicides are useless, and may be harmful; the same may be said of opium, except where the opium habit has already been acquired. In after-treatment allow no food or drink until the stomach is entirely settled. Then begin liquid diet in small quantities—buttermilk being an excellent initiative. If there are signs of tympany, a saline purgative will usually afford prompt relief; or if this is not well borne, use small doses of calomel. As a preparatory treatment for operation, insist on rest in bed for at least twenty-four hours, and free purgation. Keep patient in bed at least three weeks after a lapa otomy, which will obviate hernia in most cases. He has not much faith in the so-called electrical treatment of abdominal tumors.

Early Exploratory Incision as an Aid to the Diagnosis of some Surgical Diseases of the Abdominal Cavity.—DR. EDWIN RICKETTS, of Cincinnati, read a paper with this title. He had found it difficult in many cases to make a diagnosis previous to exploratory incision. To open the abdomen was easy enough, but afterward to do always the best thing, and that promptly, knowing when to end at exploration, bearing in mind that half-completed surgical procedures are rarely ever excusable, these are of greatest consideration. He did not deny that a diagnosis cannot be made previous to an incision in some cases; but in a majority we cannot make out with any degree of certainty until, Thomas-like, we first see and feel the condition present. He claiming that the one from the outside that is always sure of what is on the inside is the one, with his occasional operations, who is placed in a humiliating attitude before his guests, and is liable to attempt the completion of an operation that may be wholly unwarrantable. The undue conservative physician, with his free use of opiates, has grave responsibilities, for the reason that his prompt efforts for the relief of pain too often postpone the recognition of needed surgical interference. He reported briefly eleven cases, coming under his observation, where exploratory incision was necessary to diagnosis.

Nervous Disorders following Organic Strictures of the Urethra.—Dr. Hunter McGuire, of Richmond, related a number of cases in which paralysis, apoplexy, or cerebral disease of some kind followed long-standing stricture. In some of these cases there was renal disease. In his practice he had seen sclerosis of some portion of the spinal cord follow old strictures. He concludes the paper thus: "Are all of these cases mere coincidences? Urethral strictures are so common, and diseases of the nervous centres so frequent after middle life, and the interval of years between the formation of the stricture and the appearance of nervous troubles so great that it is difficult to say that one is dependent upon the other. As it is, however, I cannot help thinking that long-existing urethral strictures may set up reflex irritation in one or more of the nervous centres, and this persisting ends in pathological change in one form or another."

The Salient Points in Appendicitis—Its Diagnosis and Treatment.—Dr. Joseph Hoffman, of Philadelphia, Pa., read a paper on this subject. The cæcum hangs more or less free in the abdomen, and hence has considerable latitude as to motion, while the appendix varies in position according to the movement of the cæcum. There is frequently a dependent pouch between mesentery of the appendix and the ileum, consisting of folds of the peritoneum, which, from pressure of the rotation of the cæcum, becomes either congested or atrophied, and is thrown into a band—in either way becoming a source of danger to near-lying intestines, either as a strangulating cord or as a ring through which a fold of intestine may fall and be choked in a hernial fashion. Thus it is evident that a purely physiological rotation of the cæcum may bring on a pathological congestion without the presence of any irritating matter whatever. But keep in mind that although the position of the appendix is variable, it is not abnormal, but depends entirely upon the rotary movements, above referred to, of the cæcum. This fact will be useful in determining approximately the position of the appendix, and thus shorten the operation and prevent unnecessary handling of the intestines.

As to treatment, surgeons are divided into three classes: 1, Those who operate at once upon the occurrence of induration, pain, and high temperature; 2, those who wait, on the ground that a great majority recover under rest and opium; and 3, those who operate between attacks, or who wait for recurrence. This last class represents the progressive surgery of to-day, and includes such surgeons as Senn and Treves. But of course individual surroundings must have their due weight in determining when to operate. As to the plan of operation, be led by the principles of abdominal, not general, surgery. Mr. Treves, Dr. Homans, etc., are wrong in condemning the drainage-tube, as the results of Tait and hundreds of other abdominal surgeons prove. In women, in general terms, the best advice is to cut through the median line, for the chances are that in them the disease will not be found to be appendicitis, while if needed it has advantages anyhow.

As to diagnosis, exploratory incisions are often resorted to when symptoms point to the presence of pus; but Dr. Hoffman thinks they should be condemned. In men, the presence of an indurated mass in the right iliac fossa, with detection of pain and fulness in the region by rectal examination, is important. The right leg is often drawn up.

Remarks upon Anteflexion of the Uterus.—Dr. George Tucker Harrison, of New York, presented a communication on this subject. The normal position of the uterus in the erect woman, when the bladder and rectum are empty, is that of anteversio-flexio, the place of flexion being at the junction of the cervix and body. But when the bladder is distended the uterus is lifted up physiologically, and its posterior wall lies in juxtaposition with the anterior wall of the rectum; it is both retroposed and retroverted. While the bladder is being emptied, the fundus uteri describes an arc which corresponds to an angle of from forty-five to sixty degrees. The characteristic feature of pathological anteflexion is simply the stability of the flexion. The causes which make the flexion permanent are either in the organ itself, or operate on it from without. Metritis or infarction belong to the first class of causes, while parametritis posterior, or parametritis chronica atrophicus, or perimetritis belong to the second and more frequent and permanent in effects class of causes. When metritis attacks an anteflexed uterus, the angle which, up to that time had been variable, becomes fixed. The symptoms usually associated with anteflexion are dysmenorrhœa and sterility. This painful dysmenorrhœa is not mechanical, but is due to the associated metritis. The sterility, also, is attributable to the accompanying endometritis, oöphoritis, and perimetritis. If these inflammations are removed, and if the perimetritis has left no permanent pathological changes, conception may ensue, notwithstanding the existence of parametric cicatricial tissue or permanent anteflexion. The diagnosis of this pathological anteflexion depends alone on the demonstration of the stability of the flexion. Bimanual palpation, or the establishment of the fact that the anteflexion persists even when the bladder is distended, or the discovery that the folds of Douglas's sac are shortened or thickened, are the means for deciding the stability or non-stability of the flexion. As to treatment, it is of prime importance to try to remove the parametritis posterior or perimetritis and results. If the uterus is supersensitive, scarify it just prior to menstruation, and the dysmenorrhœa will be moderated. For the persistent uterine catarrh, wash out the uterine cavity with a solution of carbolic acid after dilatation with aseptic laminaria tents, followed by steel dilators. Lately he has been very much pleased with ichthyol, incorporated with lanolin, applied around the portio vaginalis, in clearing up old peri-arid parametric adhesions.

Epilepsy.—Dr. M. D. Hoge, Jr., Richmond, Va., next read the report on "Advances in Neurology," confining his remarks more especially to epilepsy. He said that the treatment was a combined one, the nutrition of the anæmic brain is best supplied by cod-liver oil containing the hypophosphites of lime and soda. The use of atropine controls, in many cases, the severity of the muscular contractions, and undoubtedly lengthens the interval between the aura and the convulsion itself, thereby allowing the patient time to take some sedative and possibly suppress the attack. Bromides are best given, as Seguin first suggested, with chloral. They cannot be dispensed with entirely during the first few months of treatment. They should always be conveniently within reach and taken instantly on the first premonition of an impending attack. All sources of external irritation from any reflex cause must be at once corrected. The improvement is usually slow at first, but in every case of the non-traumatic variety where it has been used the results have been perfectly satisfactory.

Vaginal Extraction of a Vesical Calculus.—Dr. E. M. Magruder, of Charlottesville, reported a case of "Removal of a Large Vesical Calculus per Vaginam." The stone was about two by three inches, and had caused a fistulous opening of about five-eighths of an inch diameter in the vaginal wall. The doctor reported the steps of the operation adopted for its removal by enlarging the vesico-vaginal opening, and as the stone seemed adherent, pieces of it had to be removed at a time, instead of by lifting it out of its pouch.

Dr. L. Ashton and Dr. Oscar Wiley, the retiring President, were elected honorary fellows. The Society then adjourned.

Erratum.—In Dr. Baruch's Paris letter, page 423 of the Medical Record, October 11, 1890, fourth line from bottom of first column, it should read "of an average of 2.7 per cent., instead of twenty-seven per cent." The dot is small, but the difference it makes considerable.

Correspondence.

THE EDUCATION OF THE SENSE OF SMELL.

To the Editor of the Medical Record.

SIR: In reading your editorial on the education of the senses, and especially noting what you say about the smell, it occurs to me that I have never seen in print the reasons why the sense of smell, which is really so delicate and often so precise and accurate, is so difficult to utilize systematically for purposes of diagnosis.

It is true that very small quantities of odoriferous substances and many organic impurities may easily be recognized by this sense; but they soon cease to make an impression unless the nose can be refreshed by recurrence to pure air.

In other words, for clear perception we need a background or neutral term of comparison, and this it is more difficult to obtain for ready reference in the case of odors than with sight and sound.

The chief reason, however, for the little knowledge we have of certain smells is the impossibility of recording observations upon them accurately, and hence the impossibility of accumulating experience, upon which nearly all clinical observation rests, except so far as each individual's opportunities go, and many human individuals undoubtedly acquire very considerable powers in this way. We know well the much greater powers of some lower animals. Visual objects can be accurately described and recorded so as to be again recognized, and sounds not quite so well; but smells can only be vaguely described or compared with some other universally known odor.

Large numbers of odors are highly characteristic and unmistakable, but there are others less frequently met with, where, from the impossibility of description, different observers cannot compare notes, and opportunities are too few in one person's experience to lead him to important conclusions.

The smell of small-pox, for instance, is highly characteristic, but I presume it would have little value in diagnosis for a great many of the graduates of the last five, or possibly ten, years, who have never seen or smelt a case, and it would be as impossible for an instructor to inform them of its peculiarities as to enable them to recognize for the first time a heliotrope without seeing it. In the latter case, however, one could make some use of the crude imitations which are sold by the apothecaries under the name of that flower.

The smell of pyæmia is described as "sweetish," which certainly does the student no good until he has smelt it.

I have twice or three times in my life encountered a certain smell, not especially far-reaching, in the breath of persons whom I met accidentally, so peculiar that I am almost sure it must have some diagnostic significance; but as I knew nothing of these people except that they looked sick and anæmic, and I cannot learn more, as I have no means of ascertaining whether anybody else ever smelt the same thing.

Osmology awaits its scale of tones or colors. Who will be its Helmholtz or its Kirchhoff? All this only emphasizes your remark about the importance of training the senses; but if it were possible to accumulate and transmit experience in matters of smell as we do in matters of sight, sound, and touch, I feel sure that the possibilities of ready diagnosis would be considerably enlarged.

Yours very truly,

SCHNEIDER.

Chattanooga.—A new hospital is being planned for Chattanooga. A company has been formed of sufficient strength to assure its erection and equipment with all the modern appliances for the comfort of patients and quick and easy manipulation of the surgeons. In connection with the hospital will be a medical college.

Army News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 5 to October 11, 1890.

VOLLUM, EDWARD P., Colonel and Surgeon. To be Chief Medical Purveyor, with the rank of Colonel, August 28, 1890.

IRWIN, BERNARD J. D., Lieutenant-Colonel and Assistant Medical Purveyor. To be Surgeon, with the rank of Colonel, August 28, 1890.

FRYER, BLENCOWE E., Major and Surgeon. To be Assistant Medical Purveyor, with the rank of Lieutenant-Colonel, August 28, 1890.

COWDREY, STEVENS G., Captain and Assistant Surgeon. To be Surgeon, with the rank of Major, August 28, 1890.

TAYLOR, ARTHUR W., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Wingate, N. M., to take effect on the expiration of his present sick leave of absence, and will report in person to the commanding officer at Fort Adams, R. I., for duty at that station, relieving Captain J. J. Cochran, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

COCHRAN, J. J., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Taylor, will report in person to the commanding officer at Camp Eagle Pass, Tex., for duty at that station, relieving First Lieutenant Paul Clendenin, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

CLENDENIN, PAUL, First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Cochran, will report in person to the commanding officer at Fort Brady, Mich., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

REED, WALTER, Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from further duty at Mount Vernon Barracks, Ala., and assigned to duty as Attending Surgeon and Examiner of Recruits at Baltimore, Md. S. O. 232, par. 7, A. G. O., Washington, D. C, October 4, 1890.

GIBSON, ROBERT J., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, granted leave of absence for three months, to take effect on being relieved from duty at Fort Trumbull, Conn., by Major Henry M. Cronkhite, Surgeon. S. O. 232, par. 12, A. G. O., Washington, D. C., October 3, 1890.

BENHAM, ROBERT B., Captain and Assistant Surgeon. By direction of the Secretary of War, will proceed from Fort Hamilton, N. Y., to Mount Vernon Barracks, Ala., and report in person to the commanding officer of that post for temporary duty, relieving Captain John J. Cochran, Assistant Surgeon, who will return to his proper station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 11, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	33	14
Scarlet fever	30	1
Cerebro-spinal meningitis	1	3
Measles	59	4
Diphtheria	47	18
Small-pox	0	0
Cholera	0	0
Pertussis	1	0

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 17.
Whole No. 1042.

NEW YORK, OCTOBER 25, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

EXPERIENCE WITH SKIN-GRAFTING AFTER THE METHOD OF THIERSCH.[1]

BY CHARLES McBURNEY, M.D.,

SURGEON TO THE ROOSEVELT HOSPITAL, NEW YORK.

WHEN Reverdin, in 1870, first brought before the profession the method of skin-grafting, well known now all over the world by his name, an extremely valuable addition to our surgical resources was made. By its aid surgeons have been able, in innumerable cases, to procure sound healing of extensive ulcerated surfaces, which without it would have remained permanently open, and in a much larger number of cases have they very materially hastened the cicatrizing process. This method is one with which all are so familiar that, at the present time, the very briefest description of it is sufficient.

Given a large ulcerated surface, as that resulting from a burn, and one which has reached a stationary condition, attempts at further cicatrization having ceased; small bits of the superficial layers of healthy skin are removed with curved scissors from the patient himself, or from another individual, and are immediately transferred to the ulcerated surface. The bits of skin are usually about the size of a canary-seed, although considerable variations in size may be safely made. These are carefully placed upon the previously disinfected granulations, always with the raw surface downward, and are gently pressed, so that they will lie flat and firm. Many such grafts may be made at one time, the number being only limited by the size of the ulcer and the patience and strength of both patient and surgeon. An appropriate dressing is then applied, and changed from day to day; and while some of the grafts will disappear, many will become adherent, will receive a supply of nutriment from the vascular granulations below, and will rapidly extend their areas, appearing to have the effect upon neighboring granulations of stimulating the formation of firm epithelium. When cicatrization ceases to advance, a second grafting may be done on other granulations, and this may be repeated again and again until the entire surface is covered with a horny surface. As already stated, this was a very valuable addition to surgical resources, and has accomplished an immense amount of good; but it is a slow and laborious process, not infrequently unsuccessful, and applicable only to granulating surfaces which have been previously brought to a properly healthy condition. The method of skin-grafting suggested by Thiersch was brought before the profession only a few years after Reverdin's first publication, and has been constantly made use of ever since that time at Thiersch's clinic, in Leipsic.[2] Many surgeons are familiar with it, and yet, if I may judge from the limited number of publications on the subject, and from the comparatively few reported cases of its use, the method has not yet been generally fully appreciated, nor has the knowledge of it spread as far as it deserves. I did not myself estimate the method at anything like its real value until I visited Thiersch's clinic and witnessed the wonderful results he was frequently attaining. Since that time I have neglected no opportunity to apply the process in suitable cases, and in doing so I have been most ably assisted at the Roosevelt Hospital by Dr. Hartley and the members of my house staff, all of whom are deeply interested in the subject. Beginning with the original method of Thiersch, we have endeavored so to modify it, as to reduce the labor of the dressings and to increase their efficiency. It is with a view of presenting the results of our practical work, that I am reading this paper to-night.

According to Thiersch, all strong antiseptics are to be avoided in skin-grafting, as the effect of these upon the cellular elements, upon the capillaries, and upon the blood itself, is such as to seriously endanger, and even totally prevent, the immediate union between the grafts and the surfaces upon which they are placed. Thiersch himself uses absolutely no solution excepting one of common salt in water, in the proportion of six parts to one thousand, or about one and a half drachm to the quart. I am convinced that it is important that this solution should be sterilized. The water used should be distilled and the solution should be boiled just before using. My own practice has been to use a solution of bichloride of mercury freely in disinfecting the ulcerated surface, and also the surface from which grafts are to be taken, afterward completely washing away all of this solution with the saline one of Thiersch just before operating. I have also used soap and water thoroughly in beginning the cleansing process. All hair should be removed from the areas involved by careful shaving. In some cases grafts may be placed with success directly upon the unbroken surface of healthy granulations, but a much more certain method of securing success, and, according to Thiersch, one essential to the avoidance of subsequent contraction, is to remove, by curetting, the superficial layer of granulations and also the tough cicatricial edge of the ulcer. A bleeding surface is thus produced on which many open capillaries exist, and which is very favorable to the immediate union of the grafts. To bring about the same result I have found it more rapid and convenient to use the knife. With a sharp scalpel an incision nearly or quite through the true skin is rapidly made entirely around the ulcer, just outside of its thickened border. With the same instrument the whole area included by the incision, that is, the granulating surface and thick edge, is shaved off with great ease and rapidity. A smooth, bleeding, healthy surface of a considerable depth is thus produced. This surface is immediately irrigated with the sterilized salt solution, and compresses of sterilized gauze are pressed upon it to control bleeding. The question of hemorrhage at this stage in the operation is one of considerable importance. If grafts are placed while bleeding still goes on, the risk of failure is much increased. Accumulations of blood, even small ones, beneath the grafts frequently induce their necrosis, and saturation of the dressings with blood is favorable to infection. But all ulcerations, and particularly those on the lower extremities, when shaved, are liable to bleed actively for a long time; so long a time, indeed, as to sometimes seriously endanger the patient's condition, or at least to wear out the surgeon's patience. E. Fischer made the observation that grafts united more readily when Esmarch's constricting band was applied above. I feared at first that the complete anæmia thus induced might endanger the vitality of the grafts. I have found, however, that the use of Esmarch's band entirely disposes of the question of hemorrhage, shortens the whole operation very greatly, and does not in the least affect the vitality

[1] Read before the New York Academy of Medicine, October 2, 1890.
[2] G. R. Fowler: Annals of Surgery, 1889, p. 179.

of the grafts. When, therefore, the situation of the ulcer is such that the band can be applied, it is put on above the whole field of operation, thus rendering the process a nearly bloodless one. The grafts may then be immediately applied and the dressings put on. After operating upon the extremities they should be placed in an elevated position to favor hæmostasis. In several instances I have allowed the Esmarch band to remain on the limb for an hour or more after the operation was finished, and always with a favorable result. If vessels of sufficient size to require special treatment are opened, they should be closed by torsion rather than by the ligature. The knot of even a fine catgut ligature prevents close adaptation of the graft at that point.

The grafts themselves illustrate most remarkably the originality of Thiersch's method. They consist of thin slices removed by shaving parallel with the surface. They may of course be taken either from the patient or from another individual. I have myself always used the patient's own material. Any broad knife may be used in cutting the grafts, but no instrument is so good as a broad razor with a very delicate edge. With this instrument, shavings no thicker than a sheet of note-paper, four or five inches long and an inch broad, may with a little practice be readily made. The surface from which grafts are to be taken should have been thoroughly cleansed and shaved, and then be wet with the salt solution. The most favorable and convenient points are the front and outer parts of the thigh, and the outer surface of the upper arm. If the surface to be grafted is upon the head or neck, the upper arm of the same side should be selected for the grafts. If the leg is to be grafted, the thigh on the same side is most convenient. If the breast or abdomen is to be grafted, the thigh also furnishes the grafts most conveniently and in the largest quantity.

The operator should stand facing the patient. With his left hand grasping the limb from below, he stretches the skin snugly about the limb. His assistant, using both hands, stretches the skin from above downward. It is impossible to take good grafts from a lax surface. Taking the razor in the right hand, the operator wets it in the salt solution, and applying the edge at the most distant part of the stretched skin, with a rapid shaving motion toward himself shaves off as thin and long and wide a shaving as he can. Four or five inches in length and an inch wide are about the dimensions of a first-rate graft. In regard to thickness, considerable variety may be safely indulged in. Some grafts may be as thin as tissue-paper and others as thick at some parts as card-board. All will do well, but no graft will do well that is so thick as to have fat upon its under surface. While cutting the graft folds up upon itself on the surface of the razor, and when a sufficient length has been reached the edge of the razor may be turned outward and the graft so severed from its connection with the skin, or, generally more conveniently, an assistant will sever it with scissors. If the graft is once dropped from the razor great difficulty is met with in handling it. If this accident happens, it takes less time to cut a new graft than to rearrange the old one. The graft being then piled up on the razor, a few drops of salt solution should be dropped on it and the instrument be immediately carried to the edge of the surface to be grafted. With a probe, one end of the graft may be slid off the razor to the raw surface, and being held there, the razor may be slid from under it across the surface, so as to unfold the graft and deposit it in place. If not exactly in place, it may readily be slid about with two probes until it lies accurately in position. The graft should be so placed that its end will follow up the perpendicular edge of the prepared surface, and reach very slightly onto the uncut skin. In this manner graft after graft is placed, great care being taken that their edges are in neat apposition to one another and are at no point folded under. From time to time a little salt solution should be sprinkled on the grafts already placed, that they may not become too dry. The entire surface to be grafted should be covered. Moisture is absolutely essential to the continued vitality of the transplanted skin; therefore a dry dressing is inadmissible. Strips of Lister protective or of thin rubber-tissue, about an inch wide and long enough to a little more than cross the grafted surface, should then be laid like shingles, overlapping one another over the entire area. These strips should have been sterilized in the bichloride or carbolic acid solution and then drawn through the salt solution. They should be gently pressed flat upon the grafts.[1] Any soft sterilized material may be used as a compress over the protective, but nothing is better than loose handkerchiefs of sterilized gauze. A mass of this material, wet with the salt solution, should be piled up over the protective or rubber-tissue to prevent rapid evaporation, and finally a well-applied gauze bandage.

The surface from which grafts have been taken now requires attention. Up to a recent period I have habitually treated this surface by dusting it with iodoform, and covering that with iodoform and bichloride gauze. With one exception, which will be referred to later, this surface has always healed well, but it has often been quite painful, and has frequently required a longer time to heal than the grafted surface itself. One of my assistants, Dr. Schultze, recently suggested that this surface be wet with salt solution, and then be completely covered simply with rubber-tissue, with sterilized gauze above. This method has given great satisfaction, healing going on very rapidly and entirely painlessly. In a recent case, a very large surface on the thigh from which grafts had been taken was treated in this manner and was entirely healed on the eighth day.

I have made no mention as yet of the use of anæsthetics while performing this operation, and I notice that the writer of a recent article on this subject expresses a fear that they may act unfavorably on the grafts. I have used ether in every case operated upon, and so far as I can see, without the slightest unfavorable effect.

The variety of lesions to which Thiersch's method is adapted is very large. It includes all ulcerated surfaces upon any part of the external surface, and the process is destined, I am very sure, to displace all of the older methods, many of which are in constant use to-day. Varicose ulcers, ulcers produced by burns, by extensive wounds, by sloughing processes, can be all rapidly and successfully healed by this method. But those who are not familiar with the method would be surprised to see how perfectly and successfully these grafts can be immediately applied to the denuded surface produced by extensive operations for the removal of malignant and other tumors—to any raw surface, in fact, which cannot be covered by the adjacent skin. How often it happens that the complete removal of a cancerous breast, particularly in secondary operations, or the excision of a broad tumor from the head or face, necessarily leaves a very large exposed surface to heal by the slow process of granulation and cicatrization. In not a few cases malignant disease reappears before the wound produced by operation has healed, to the disgust of the surgeon and the despair of the patient. Upon such surfaces grafts may be placed as soon as the primary operation is finished and hemorrhage has ceased. And it is astonishing to see the variety of tissue to which the grafts will firmly adhere. Muscle, fascia, cartilage, and even bare bone, may all be successfully grafted. The most favorable surface is a clean muscular one, and the least favorable the surface of compact bone. In one case, after the removal of an extensive carcinoma of the face, a large area of lower jaw was completely bared. Grafts laid over this surface adhered nearly perfectly throughout, and at the end of a week those that covered the bone were found to be soundly attached to it. In another case, a surface several inches in diameter on the back of the forearm included a number of exposed extensor tendons.

[1] Strips of rubber-tissue are used rather than a single larger piece, in order that the salt solution with which the gauze is wet may more readily reach the grafts.

The grafts applied in this case were more than usually successful, and complete healing was rapidly attained. The breast cases have especially interested me, and I have come to feel entirely at liberty to make extremely wide and thorough removal of disease in this situation, knowing that I could at the same time cover the surface, without resorting to any plastic operation by sliding flaps, and without running the risk of having to treat a large ulcer for many months after operation. The method adopted in the breast cases has been as follows: First, as complete a removal of disease, including as much surrounding skin as seemed desirable to avoid recurrence. Then a closure by suture of such parts of the wound as could be sutured without too great tension.

There would still, perhaps, be left an exposed area of chest-wall of from four to six inches diameter. The depth of this wound I have diminished by a considerable number of catgut sutures so applied as to partially invert the skin edge, and bring these down nearly to the muscular level. Upon this diminished and shallow wound the grafts have been laid so as to entirely cover it. The wound has then been dressed in the manner already described, and the arm, bent at a right angle at the elbow, bound to the thorax. After the primary dressing, the management of the cases has been varied gradually from the original method. I learned from Thiersch that the gauze placed immediately over the protective should be kept constantly moist with salt solution, and that to effect this it was necessary to moisten the gauze every four hours. This was a very laborious process, and I have gradually extended the time between the applications of salt solution, until now it is done only once in two days. This seems sufficiently often, and the cases treated in this manner have done perfectly well. At the end of forty-eight hours, then, the dressings are all removed excepting the protective, which lies next to the grafts. A fresh wet dressing is applied and changed again after two days. By this time there is usually some formation of pus, or at least of a purulent-looking exudation; in fact, I have seen no case go on for a whole week without any pus. If it exists in considerable quantity it is removed by absorbent gauze, and the protective removed and fresh material applied. The protective may be lifted and the grafts examined without danger at any time after the second or third day. If successful they look smooth and pink, and if unsuccessful at any part they look shrivelled and yellow or brown, and may die at some points. But even when only partially successful, the granulating spots have quite rapidly healed over under ordinary treatment. A dry dressing applied too soon to the grafts destroys their vitality through the absorption of moisture, and we have made it a rule to leave the protective in place for from ten to fourteen days. At the end of this time the protective has been removed and an ordinary antiseptic dressing applied; granulations, when exuberant, being touched with nitrate of silver, or dressed with balsam of Peru.

CASE I. *Large Indolent Ulcers originating in an Extensive Suppurative Prepatellar Bursitis.*—M. B.——, a male, forty years of age, entered the Roosevelt Hospital on December 30, 1889. Persistent treatment totally failed to diminish the ulcerated areas.

February 15, 1890.—Esmarch's constricting band applied just below the left groin. The surfaces of the ulcers, three in number, were shaved, and the edges completely excised. Grafts taken from the left thigh were applied, then the dressing already described, the limb was elevated, and the patient sent to bed with the constricting band still on. The band was removed a few minutes later.

March 4th.—Grafted areas all soundly healed, excepting that a few very small granulating spots remain.

March 16th.—Healing complete.

CASE II. *Extensive Recurrence of Carcinoma in and about the Cicatrix left by a former Operation on the Left Breast.*—Mrs. S——, aged forty. August 20, 1890. A very free excision of all diseased tissue was made. A few sutures were applied at the inner and outer angles of the wound, but an open area about five inches in diameter remained uncovered. To this surface grafts taken from the left thigh were applied on September 16th. The entire surface was soundly healed.

CASE III. *A large Epithelioma of the Malar and Anterior Temporal Regions of the Right Side of the Face.*—Miss M——, forty-one years of age, came under my care in April, 1889. The notes of this case have been lost, but after excision of the tumor the exposed surface was large and deep. Cicatrization was very slow, and in May, 1889, grafts were applied to the entire surface. The operation was very successful. I saw the patient this morning, and the grafted surface is perfectly smooth and sound.

CASE IV. *Large Cysto sarcoma of Right Breast.*—Mary B——, aged fifty-two, entered the Roosevelt Hospital on June 29, 1890.

July 6th.—The tumor was removed by free excision, no available skin remaining to cover the exposed surface left, which measured four by five inches. A few sutures at the angles of the wound were applied. Grafts taken from the right thigh were immediately applied. In this case only about half the grafts were successful. The whole wound was soundly healed on August 26th.

CASE V. *Lupus of the Cheek Measuring three by two and one-half inches.*—Ellen H——, aged thirty-eight, entered the Roosevelt Hospital on August 4, 1890.

August 8th.—Complete excision of the disease. Grafts were immediately applied from the right thigh.

September 1st.—Complete healing had occurred. In this case the new surface is decidedly keloid in character.

CASE VI. *Large Varicose Ulcer over Inner Malleolus of the Left Ankle.*—Eliza E——, aged forty-six, entered the Roosevelt Hospital on June 3, 1890. Margin unhealthy and base sloughy.

June 13th.—The ulcer was completely excised. Grafts from the thigh immediately applied.

July 22d.—Complete healing had occurred.

CASE VII. *Recurrent Sarcoma of the Right Breast.*—E. S. M——, aged forty-three.

May 29, 1890.—Thorough extirpation of diseased tissue, leaving an open surface measuring about five by four inches. Immediate grafting from the right thigh.

On June 29th a few minute granulations remained. The rest of the surface had healed.

CASE VIII. *Large Indolent Ulcer on Left Leg.*—F. L——, forty-six years of age, entered the Roosevelt Hospital on July 17, 1890. The ulcer was about ten inches long and two inches wide. It had existed for eight years.

July 18th.—The ulcer was excised, and grafts from the left thigh were immediately applied.

August 6th.—Completely healed. (Patient exhibited.)

CASE IX. *Large, hard, Ulcerated Carcinoma of Right Breast.*—Mary C——, forty-five years of age, entered the Roosevelt Hospital on June 19, 1890.

June 27th.—Extensive removal, leaving a surface which measured five inches in diameter, and which could not be covered by any ordinary means. Immediate grafting from the right thigh. About half of these grafts failed, doubtless owing to the fact that the first dressing was left unchanged, as an experiment, for five days.

August 12th.—The entire grafted area was soundly healed.

CASE X. *Highly developed Condition of Ectopion Vesicæ.*—W. W——, five years of age.

November 19, 1889.—Wood's flap operation was done, and to diminish the raw surfaces left sutures were applied wherever they could be useful. A large uncovered wound still remained, which was immediately grafted from the thigh.

December 10th.—The entire surface was healed.

CASE XI. *A large Ulcer of the Leg originating in an Extensive Injury.*—J. D——, aged nineteen, entered the Roosevelt Hospital on October 19, 1889. The ulcer

had existed for six years, and had received much treatment.

December 28th.—The surface of the ulcer was shaved and grafts applied.

January 20th.—Three small points of granulation only remained open.

February 12th.—The whole surface was firmly closed.

CASE XII. *Flat Ulcerated Epithelioma of Left Forearm.*—Mary G——, aged sixty, entered the Roosevelt Hospital on July 5, 1890.

July 11th.—Complete excision, leaving a surface which measured four by five inches. Grafts were immediately applied from the left thigh.

August 5th.—Complete healing had occurred.

CASE XIII. *Large Sarcoma of Left Breast.*—H. N ——, aged fifty, entered the Roosevelt Hospital on June 4, 1890.

June 6th.—Complete and free excision, leaving an exposed surface measuring about five inches in diameter. Grafts from the left thigh were applied.

July 21st.—The entire surface had healed.

CASE XIV. *Very large Carcinoma of the Left Breast.*—C. F——, aged forty-four, entered the Roosevelt Hospital on July 10, 1890.

July 11th.—Complete removal of the tumor. The uncovered surface which remained measured five by four inches. Grafts from the left thigh were applied.

August 5th.—The wound had completely healed.

CASE XV. *Extensive Laceration of the Right Forearm, resulting in an unhealthy Ulcer Measuring three by five inches.*—A. W——, aged fifty, entered the Roosevelt Hospital on March 21, 1890.

April 23d.—The ulcer was shaved and grafts from the thigh were applied.

May 4th.—Only a few minute points of granulation remained.

CASE XVI. *Carcinomatous Ulcer of the Left Cheek, about one and one-half inch in Diameter.*—J. M——, fifty-six years of age, entered the Roosevelt Hospital on January 24, 1890.

January 25th.—Complete excision and grafting.

February 17th.—Completely healed, excepting one minute granulating spot.

CASE XVII. *Extensive Burns of Penis, Scrotum, Left Thigh and Back.*—W. O——, fourteen years of age, entered the Roosevelt Hospital on July 2, 1890. Immediate treatment, carbolized oil, etc.

August 8th.—Three unhealed ulcers remained, the largest being on the antero-internal surface of the left thigh. This ulcer measured eight by six inches. Grafts taken from the right thigh were applied.

September 1st.—Two small areas of granulation, the size of a quarter of a dollar, were the only unhealed points. These were dressed with balsam of Peru.

CASE XVIII. *Keloid over the Right Patella, and Indolent Ulcer following Suppurative Bursitis.*—M. D——, sixteen years of age, entered the Roosevelt Hospital August 4, 1890.

August 6th.—An area measuring two and one-half by one-half inch was excised, grafts from right thigh immediately applied. Complete healing occurred on September 12th.

CASE XIX. *Ulcer on the Inner Aspect of Right Leg.*—B. C——, nineteen years of age, entered the Roosevelt Hospital on August 14, 1890. The ulcer had existed for one year, and measured one and one-half by one and one-quarter inches.

August 15th.—Grafts from the right thigh were applied.

September 15th.—Entirely healed.

CASE XX. *Large unhealthy Ulcers of Right and Left Legs, Measuring four by five inches.*—Ira F——, aged twenty-nine, entered the Roosevelt Hospital on December 15, 1889. One of these ulcers had existed eighteen years. Preliminary antisyphilitic treatment.

January 23d.—No improvement having occurred, the ulcers were shaved, the edges excised, and grafts from the thigh immediately applied.

February 15th.—The entire ulcerated surfaces were healed, with the exception of one spot of granulation the size of a three-cent piece.

This patient developed erysipelas in the surface from which the grafts had been taken, and was transferred to the pavilion at Bellevue. He recovered from his erysipelas and left Bellevue subsequently, entirely well.

CASE XXI. *A Srominent Circular Epithelioma of the Size of a Silver Half-dollar, situated on the Right Lower Eyelid.*—E. W——, aged thirty-nine, entered Roosevelt Hospital on June 2, 1890.

June 6th.—The tumor was excised without cutting the cartilage of the lid. A single graft from the arm was applied to the exposed surface.

June 13th.—Complete and sound healing had occurred. The surface was smooth, and only differed from the surrounding integument in being slightly darker in color.

CASE XXII. *Epithelioma, two inches in Diameter, over Right Temporal Region.*—A. S——, fifty-nine years of age, entered the Roosevelt Hospital on December 10, 1889.

December 21st.—Complete excision, leaving a surface measuring three by four inches. Grafts from right thigh immediately applied.

January 12th.—Completely healed, excepting a few granulating spots.

CASE XXIII. *Ulcerated Carcinoma of Right Breast.*—R. R——, forty-four years of age, entered the Roosevelt Hospital on April 25, 1890.

April 26th.—Complete removal, leaving an uncovered surface measuring about four inches in diameter. Grafts from left thigh applied. About half the grafts failed to unite. This patient was lost sight of May 14th, with the surface largely healed.

CASE XXIV. *Large Carcinomatous Ulcer of the Left Side of the Neck and Face.*—J. F.——, forty-three years of age.

December 28, 1889.—An extensive dissection was required to remove the disease, and a deep cavity measuring three by four inches was left after the excision. The descending ramus of the lower jaw was extensively bared, and also the mastoid process and the large vessels of the neck. Grafts to cover the whole surface were taken from the left upper arm; all of these grafts adhered perfectly, even those applied to the exposed bone, with the exception of an area about one inch in diameter next to the ear.

January 21st.—Almost the entire surface was soundly healed. The patient was then lost sight of.

I have reported here twenty-four cases, representing a considerable variety, both as regards the size and the character of the surface grafted. Most of the patients were ordinary ward patients received into the Roosevelt Hospital, and were all operated upon either by Dr. Hartley or myself.

The length of time occupied in attaining sound healing has varied from one week to two months. Some of the best results have been accomplished on the most extensive surfaces. In regard to the permanency of the grafts, I may say that it is remarkably good. Most of the cases reported have been kept under observation, and in no case has anything more than a very minute breaking down of the new tissue been noted. Of course, no claim is made that Thiersch's grafting will prevent the return of malignant disease, but it is certainly much to be desired that after all operations on malignant disease the wounds should be healed at the earliest possible moment. The application of the method will, I feel sure, become constantly more extensive, and no one who gives it a trial can fail to be convinced of its very great value.

I should like now to present a few cases for your inspection. My house surgeon, Dr. Tousey, has kindly brought them here.

RUPTURE OF THE MEMBRANES TWENTY-FIVE DAYS BEFORE THE BIRTH OF A HEALTHY CHILD.

By P. B. EGAN,

ASSISTANT SURGEON, U.S.A.

THE origin and uses of the liquor amnii are matters about which there is little accord. On the one hand it is claimed to be the product of fœtal excretion; on the other, it is said to arise by transudation from the vessels of the parent circulation.

The facts that the amnion is a fœtal membrane, that the fluid therein has been found to contain urea and meconium, and that pathological obstruction of the urethra has produced rupture of the fœtal bladder, are adduced in support of the former theory. The belief, from analogy with the chick and the observations of Mekus, that the fœtus derives his water-supply from the liquor amnii, that that liquor is formed long prior to the period when fœtal excretion begins, and that, finally, its composition is similar to the general composition of the maternal blood, are facts believed to strengthen the second hypothesis.

Neither have the experiments begun by Kuntz and Wiener, and carried on at the present time by Gusserow, Dürssen, Krugenberg, etc., determined whether we should look on the cavity of the amnion as a well-spring or a cesspool. Lusk, following Gusserow, declares that the liquor originally transudes from the fœtal vessels, but is augmented, in the latter months, by fœtal excretions.

More unanimity appears to prevail on the subject of its uses, though all is not harmony even here. These uses are briefly stated by Verrier [1] as follows: "The liquor amnii isolates the various parts of the fœtus, protects them from shock from without, facilitates their movements, prevents their compression, and also that of the cord, and maintains uniform expansion of the ovum." This it does so long as the membranes remain intact. Among obstetrical writers this integrity is considered absolutely essential to the life of the child, and a safe parturition. Cazeaux, in his classical work, declares: "In the latter [labor] they [the waters] seem destined to guard the child from the violence of the uterine contractions, which, without them, would certainly compromise its existence, and to aid in forming the amniotic bag, the engagement of which renders dilatation of the neck more uniform and easy. . . ." Playfair says: "If we evacuate the liquor amnii prematurely, the pressure of the head on the cervix might produce irritation, and seriously prolong the labor." The extreme views on this subject were clearly expressed, in 1885, by Dr. Henry T. Byford, in a paper read before the Chicago Gynecological Society. He described "the possibility, probability, and utility of the preservation of the membranes from rupture, until they dilate, or aid in dilating, the vulvo-vaginal orifice, as well as the cervix." [2]

Numerous cases have, however, shown that this integrity is not essential. The first note of dissent was sounded by Professor Stephenson, of Aberdeen, in the *British Medical Journal* of August 4, 1877. He wrote: "In the face of the fact that much, and often long-continued, ineffectual exertion is frequently due to the integrity of the membranes, even before full dilatation of the os, and the other fact that such ineffectual work is often productive of serious after-complications, there is certainly a want of discussion on this point in our recent works. . . . In reference to puncture of the membranes, I have stated practice is at variance with teaching." He then enumerates four different conditions in which he believes rupture of the membranes, prior to full dilatation of the cervix, to be an advantage.

The most extensive and complete observation on this subject has been furnished by Dr. Kemper, of Indiana. In the *American Journal of the Medical Sciences* for April, 1885, he records fifty cases of spontaneous rupture of the membranes, occurring in seven hundred obstetrical cases. Rupture took place three weeks before the beginning of pains in one case; four days before pains in another; three days before pains in three cases, and two days before pains in one case. As a result of his experience he concludes as follows:

"1. Spontaneous rupture of the membranes at full term of gestation and preceding the beginning of labor pains is an event of common occurrence, averaging about once in fourteen labors.

"3. When such an accident occurs, the duration of labor is not necessarily prolonged or rendered more painful.

"4. The mortality of the mothers is not augmented, and the ratio of still-born children, if at all, is so slightly increased as to amount to a minimum.

"6. It is probable the duration of labor is shorter in cases where the appearance of pains is delayed for some time after the membranes are ruptured.

"8. Finally, that the fear of delay and danger in these cases — the classical 'dry labor' — promulgated by our early obstetrical fathers, and endorsed by successive authors generally, is based on the merest spark of truth, and is one of those medical traditions that experience shows to be overestimated and to a large degree apocryphal."

Space alone prevents more extended quotation from this excellent contribution. It forms, together with those of Eisenhart,[1] the only complete record of extensive modern observation on this subject. Isolated cases with a longer interval between the pains and the onset of labor are sparsely scattered through medical literature. Dr. Anderton reported to the New York Clinical Society a case where labor resulted in the birth of a living child thirty-nine days after rupture of the membranes.[2] Profuse hemorrhage supervened on the ninth day. He also cites the case of Dr. John Gould, in which living twins were born five weeks after the discharge of the waters. Likewise the case of Mr. Thorburn, where, six weeks after the rupture, a healthy child was born. Five other cases, by English observers, are given in which there was a delay of from four to six weeks, but in which, unfortunately, no mention is made of the condition of the child.

As would naturally be supposed, from the eminence of the author, by far the best recorded case is that brought before the London Obstetrical Society by J. Mathews Duncan.[3] Here pregnancy continued for forty-five days after rupture of the membranes. The child was born alive, but died soon afterward. It showed signs of compression. This case will be again frequently alluded to. Charpentier [4] cites the case of Bailly and Garipuy in which thirteen and a half days elapsed. In Chareuil's cases twelve and twenty-seven days intervened. In his own three cases there were intervals of twelve, fourteen, and forty-four days respectively. The two cases of Poullet, in which living children were born five and six weeks after the rupture of the membranes, he considers examples of hydrorrhœa.

The following case is added as a contribution to this comparatively rare and interesting subject:

Mrs. T——, wife of a clerk, thirty-five years old, strongly built and robust. Of good family history and no acquired constitutional defect. Has three living, healthy children—the eldest ten, the youngest six. Since the birth of the latter she has had four miscarriages. The last occurred twelve months ago, when she was in about the seventh month of pregnancy. From an examination of the fœtus the doctor in attendance declared that it had been dead some months.

No cause can be discovered for these "mishaps." Her last monthly sickness occurred about December 20th.

[1] Wood & Co., 1884.
[2] Journal of the American Medical Association, vol. iv.

[1] Arch. f. Gyn., xxxv., 3.
[2] New York Medical Journal, April 24, 1886.
[3] Medical Times and Gazette, 1872, vol. i.
[4] Wood & Co., 1887.

She was taken with labor pains on the evening of August 17th next following. These were succeeded in a few hours by rupture of the membranes, and the escape of a large quantity of liquor amnii. On examination during the evening the os was found to be dilated to the size of a dollar, and the head presenting.

Descent was not yet sufficiently advanced to enable the position of the occiput to be determined. The pains were of the kind known as preparatory or dilating, occurred frequently, and lasted a minute or two. Later in the night the posterior fontanelle was plainly discovered toward the left acetabulum, with the sagittal suture running backward to the right side. As the pains continued to be dilating in character but little advance was made. The patient was assured that everything was progressing favorably, but that delivery would probably not take place before the next day. On the following morning the occiput was no longer within reach. Later in the day it became again discernible. Dilating pains continued at frequent intervals. A small quantity of blood-stained mucus escaped, but no membranes were discoverable. In the evening the patient was given half a grain of morphia in four doses. This produced a night of complete rest. On awakening in the morning she found the pains had vanished. From this time until September 11th the woman attended to the lighter household duties. She suffered from occasional pains, especially during the night. These were situated over the lower part of the abdomen, and were said to be like feeble labor-pains. On the morning of the 11th they became more severe. Examination showed the head presenting as before, in the L. O. A. position. About 10 P.M. the pains became expulsive in character. In one hour a girl was born, weighing six and a quarter pounds. Her body was covered with a large amount of vernix caseosa. Her lips were quite purple, but she immediately began to cry with exceptional vigor, and has since continued healthy. A small quantity of water drained away with the more severe pains, but no membranous bag formed at any time. But one opening could be found in the afterbirth.

The differential diagnosis in this case rests between premature rupture of the membranes and hydrorrhœa gravidarum. The fact that the waters came away in a gush under expanding pains; that it was followed by a bloody, mucous discharge; that it again appeared in small quantity, having probably transuded under the pressure of the severe pains; that "nature's wedge" was absent during delivery; and that, finally, on the first occasion the presentation and position were twice discernible as they have never been to the writer, with the membranes unruptured, led to its diagnosis as above.

The causes which give rise to this condition are variously stated. Eisenhart[1] considers advanced age and pelvic contractures in the woman, and abnormal position and deficient length and weight in the child, as exciting causes. Smellie considered obesity a cause. Verrier[2] considers that "it occurs usually with those presentations where the fœtal part does not hermetically close the lower segment of the womb." Our knowledge on this point is, however, very uncertain.

We are equally in the dark as to why labor does not at once supervene in these cases. Mathews Duncan[3] considers this fact is not to be wondered at in our utter ignorance as to the cause of natural labor. He scouts the hypothesis of Burns, that in these cases the membranes may be again healed. Robert Barnes, in the discussion which followed, suggested that the reason was because the nervous centres had not yet attained the remarkable degree of irritability that characterizes them at full term. Schatz[4] considers there is an inhibitory centre of considerable power, so that the cervix can be dilated by regular pains of pregnancy without being followed by the onset of labor, "because the inhibitory centre energetically antagonizes the irritation proceeding from that part."

Mathews Duncan[1] considers the life of the child is not destroyed in these cases because there is no "active uterine contraction," and it is only such he believes to be able to destroy. Active uterine contractions in the above case lasted but one hour, thus supporting the opinion of Dr. Kemper,[2] that labor is shorter where the membranes have been ruptured a long time prior to its onset.

As labor in the above case was exceptionally easy, the lividity of the child was probably due to the compression to which it had been so long subjected.

Mathews Duncan[3] considers the absence of vernix caseosa in his case as due to the friction from uterine contraction. This observation, however, seems extremely doubtful. Lusk[4] says, the amount of this substance on the body at birth is very variable. Dr. Bartlett[5] reports a case in which the membranes ruptured when the head was on the perineum, and where the vernix caseosa was so thick on the vertex as to give rise to the diagnosis of placenta prævia. "The upper parts of the arms of the child were so bedaubed with the sebaceous secretion as to look like the spokes of a wheel on a muddy road." In one of the writer's cases, where the membranes, containing a large quantity of liquor amnii, ruptured at the proper time, the child was wholly free from vernix caseosa.

FORT DAVIS, TEX.

[1] Loc. cit. [2] Loc. cit. [3] Loc. cit.
[4] American Journal of Obstetrics, vol. xix.

CONSTIPATION AND SOME OF ITS SEQUELS TREATED BY MEDICO-GYMNASTICS AND MASSAGE.

BY JAKOB BOLIN, M.G.,
NEW YORK.

THE effects of bodily exercise upon the functions of the abdominal organs in health called quite early the attention of the medical profession to the probability of arriving at some beneficial results by treating them by movements and manipulations when in diseased condition. But it seems as if the importance of medico-gymnastics in diseases of the alimentary canal has not been fully appreciated, while massage of the abdomen has become a fad, which threatens more and more to be an intolerable nuisance, for great stress is laid upon this means in a number of diseases where it still remains for the conscientious observer to notice a single case of severe character or long duration which has been carried through to a permanent cure. The prevailing practice, for instance, of prescribing "rubbing" as an excellent means against constipation with slow or deficient peristalsis seems so doubtful, to say the least, that there is danger that this practice alone will tend to degrade massage, a therapeutic agent of greatest value when judiciously employed, to the level of these much-bragged-of panaceas fit for hardly anything more than to bring money into the pockets of the "patentee." It is evident that the largest part of the alimentary canal, being easily accessible to the manipulations of the masseur, must be influenced accordingly. But the question naturally arises whether or not this influence always is for the better, and, if this question be answered in the affirmative, whether it is strong enough to carry the case through to a permanent cure, or necessarily must stop at temporary relief only.

We know and understand easily the value of massage in removing persistent fecal occlusions in the bowels, especially at the cæcum and the sigmoid flexure, even when other means have failed to bring about an evacuation; but removing a lump of fæces is a purely mechanical procedure employed against a symptom only, not against the disease itself, whether this consist of atony of the muscular coats, or in a decreased secretion, or in something else, whatever it may be. Some men, with

[1] Loc. cit. [2] Loc. cit. [3] Loc. cit. [4] Midwifery, 1884.
[5] Journal of the American Medical Association, November 5, 1887.

well-known names as practical masseurs, claim that massage not only pushes the intestinal contents forward toward the rectum and increases the secretion of the parts manipulated, but that it also stimulates the bowels to more active peristaltic movement. For instance, Graham says:[1] "Massage improves the circulation, and pushes along the contents of the accessible portions of the stomach and intestines at the same time, *besides directly stimulating the muscular fibres to contraction*, . . ." with this expression plainly having in mind a peristaltic contraction. To Reibmayr the case seems so clear that it needs no proof beyond the well-known fact of more regular evacuations for the time being, and his somewhat nonchalant assertion that "Die peristaltische Bewegung der Darme wird eine regere."[2]

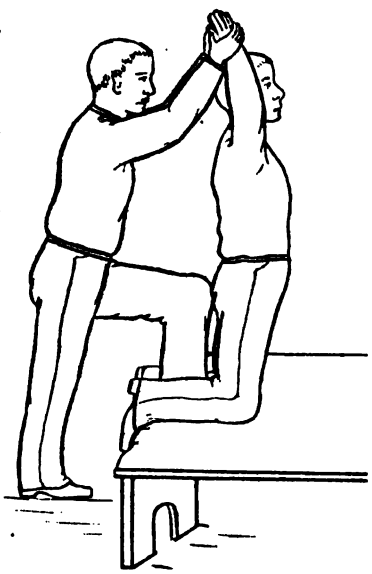

FIG. 1.

A priori we may expect the intestinal musculature to contract under massage just as any other muscle under a mechanical stimulus, which expectation is also proven to be beyond doubt; but the experiments of Nothnagel[3] show us plainly that the contracting effect is exclusively local and cannot be compared with proper peristaltic contractions. And, even if such were the case, it is unreasonable to expect too much of this "exercise" of the involuntary muscles, and to maintain that they thereby regain such vigor as afterward, spontaneously, to perform their work without the normal stimulus of a strong "Bauchpresse," which is just the thing lacking in most cases of constipation, the abdominal walls being weakened by sedentary habits, pregnancy, etc., while the superficial respiration, natural in cases of long standing, at least, makes the movements of the diaphragm much less extensive. And no one claims, I suppose, to be able to increase the respiratory power, or to strengthen the abdominal voluntary muscles to any extent by only "Bauchmassage." For this purpose exercise—movement—is necessary. But exercise is often prescribed without any advice whatsoever being given as to the kind of exercise most suitable for the individual case, and when the question is raised as to the kinds of exercise, walking and horseback-riding are the only ones taken into consideration. Horseback-riding will prove ample in most cases, I think, but for many it is too severe and cannot be endured; while in regard to walking—*i.e.*, the common, everyday, go-easy walking—the direct effect is comparatively small, though it, of course, is of great value as strengthening the whole system.

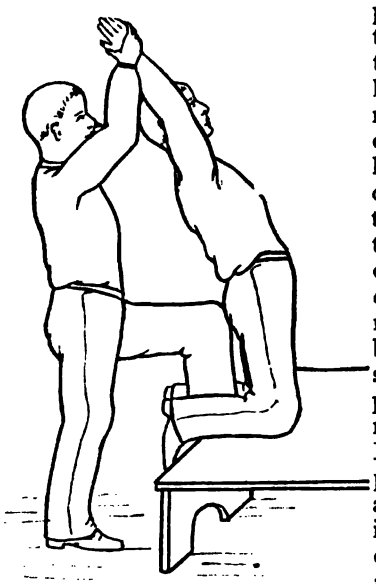

FIG. 2.

When in the following lines recommending a few movements used by medico-gymnasts to the consideration of the practitioner, it is perhaps not out of the way to emphasize that not one of them must be even thought of as a specific, but combined in a certain way they are intended to remove the causes of obstructions, if any there be, to stimulate the respiration, to improve the circulation in general, but especially in the vena-porta system, and to create a strong and healthy "Bauchpresse." The combination of the movements depends, as well as the movements themselves, on the particular needs of the case at hand, and can, of course, not be even touched upon in a short article, so that the programme below is not to be followed as a prescription, but only looked upon as an example to elucidate the general mode of procedure in this method of treating constipation.

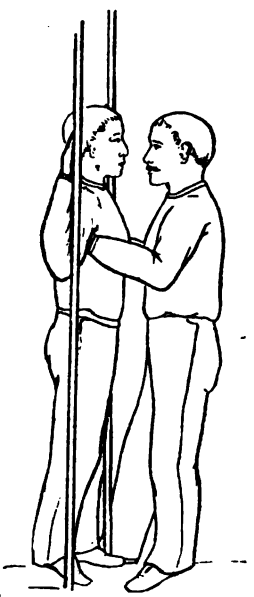

FIG. 3.

1. In Fig. 1 the patient is represented as kneeling on a bench, his pelvis fixed by the support of the gymnast's knee on his sacrum, his arms stretched upward and grasped by the gymnast around the wrists, thus by the traction on the pectorals and the expansion of the chest gaining a second support for the abdominal muscles, the two ends of which now are tolerably firm. If the gymnast now execute a slow, steady traction backward, regulating his strength according to that of the patient, who resists as much as he comfortably can do without interfering with the respiration, when he comes to the position denoted in Fig. 2 it is plain that he thereby brings the abdominal muscles into play, not only exercising them, but also by their pressing on the intestines causing them to do part of the work done by his hand in massage, and finally accelerating the circulation in the abdominal tract. The operator brings the patient back to his original position and repeats the movement three to six times with a moment's intermission.

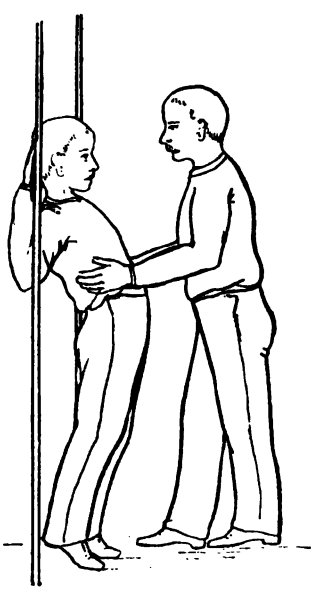

FIG. 4.

If there be very strong relaxation of the abdominal muscles, it will be found more effective to reverse the movement, so that the patient bends backward to the arching position of Fig. 2, and from there rises to the erect position of Fig. 1, under resistance from the gymnast.

2. In Fig. 3 the patient stands between two poles, or in a doorway, with the upper arms horizontally sideward, the forearms and hands stretched upward, resting on the poles. The gymnast stands in front with his hands between the scapulæ. While the patient rises to tiptoes at the moment of inspiration, the gymnast pulls the thoracic walls slightly forward, letting the hands slide along the ribs and executing quick vibrations till the position at the

[1] A Practical Treatise on Massage, etc., p. 124. New York: Wm. Wood & Co. 1884.

[2] Die Massage und ihre Verwerthung, etc., p. 55. Leipzig und Wien, 1886.

[3] Beiträge zur Physiologie und Pathologie des Darmes. Berlin, 1884.

end of the inspiration is as in Fig. 4. During the exhalation the patient sinks down on his heels, while the gymnast relaxes his hold, and brings the hands back to their original place. Repeated five to fifteen times this movement is intended to intensify the respiration, and by so doing not only to increase the movements of the diaphragm but also to decrease the blood-pressure in the extra-pulmonary parts of the thoracic cavity,[1] whereby the venous blood of the abdomen—where the circulation is sluggish—will be, so to say, sucked up toward the heart, relieving the passive stasis of that part. The effect of the vibration is not satisfactorily explained, but it has been empirically noticed to be a valuable help in stimulating the respiration. In a movement of this kind attention should be paid to the necessity of making the respiration powerful and deep, *without special effort, resembling dyspnœic respiration*, which never fails to exhaust the patient.

3. Fig. 5 represents sacral percussion. The patient, standing with support for the arms against the wall, and

Fig. 5.

the feet a little parted, leans forward, so that the musculature of the abdominal region will be somewhat tense. The gymnast, with one hand supporting the abdomen, executes with his clinched fist quick knocking or percussion over the sacrum during a couple of minutes, with the idea of thereby stimulating the nervous centres supplying the pelvic viscera in general, and more specially acting upon the rectum and the bladder by means of the sacral and pelvic plexuses. This manipulation is by many looked upon as invaluable in severe cases of piles.

The part of the programme now gone through consists of one strong active movement, one very much milder, and one manipulation, and I generally form a programme from such groups of two or three movements, which I have follow each other without any pause, but after which I insist upon at least five minutes' rest, either on the sofa or for stronger patients in walking.

As a second group the following three might be used:

4. The patient lies on the bench, and while his legs are fixed by the gymnast as in Fig. 6, he tries to elevate the body to a sitting position, or rather to an angle of about sixty degrees, from which he again slowly returns to his first position, repeating this three to six times. The lower extremities being fixed as before said, and the thoracic walls by the effort, the abdominal muscles will be called to strong action, more especially perhaps the recti. A moderation of the work performed may of course easily be effected by moving the centre of gravity toward or from the point of attachment of the active force, for instance by letting the patient rest his hands successively on the hips, behind the neck, or keeping them stretched upward in the axis of the trunk.

5. As the second part of this group may very well be applied the "Bauchmassage" proper, for which the patient takes a position in which the muscles are thoroughly relaxed, as in Fig. 7. The procedure of abdominal massage being dwelt upon at length in all handbooks on massage, there is no reason to take time and space for a description here; but it ought perhaps to be remarked that the way of kneading the colon, as generally recommended in manuals, viz., commencing at the cæcum and following the ascending, transvere, and descending parts successively, must certainly not be used in cases of long standing where there are considerable accumulations of hard fecal matters with more or less dilatation. More can be gained by commencing the manipulation as far down in the left iliac fossa as possible, and slowly passing upward to the cæcum. It is evident that the usual way, if employed in these cases, only tends to make things worse, while this latter way offers opportunity to press the hardened substances forward in their natural course.

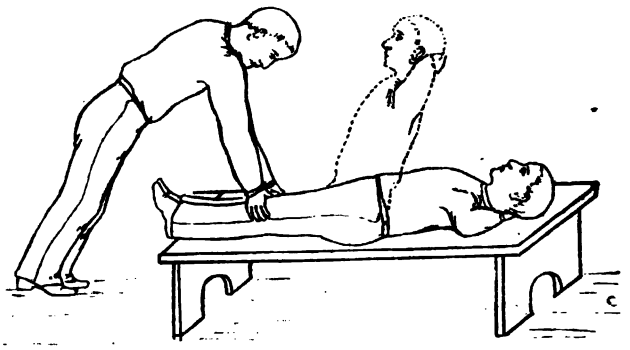

Fig. 6.

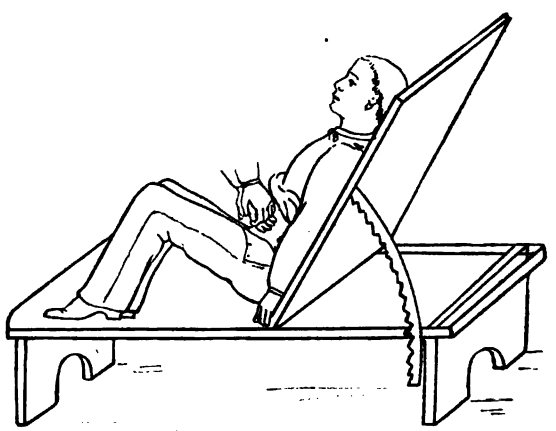

Fig. 7.

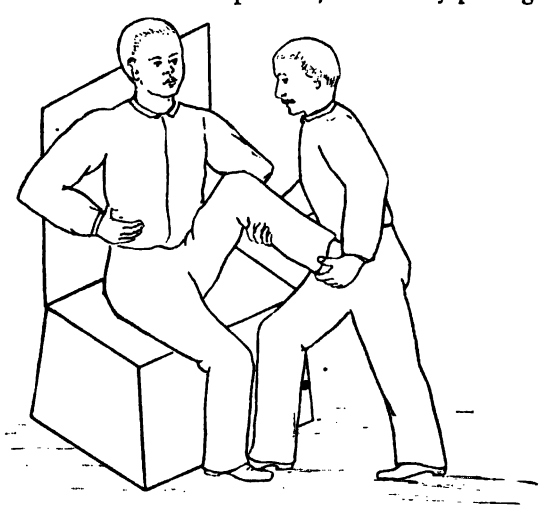

Fig. 8.

[1] Hartelius: Lärobok i sjukgymnastik, p. 205. Stockholm, 1883.

6. Fig. 8 shows the patient sitting in a comfortable position, totally passive, and the gymnast circumducting the thighs alternately outward and inward in large circles six to eight times, which is repeated in each direction two to five times. If very large circles are used we may expect the movement to have some direct effect on the abdomen on account of the pressure effected at each upward turn, but it is mostly intended to improve the circulation of the lower extremities. The large veins being attached to the fascia, every movement of the hip-joint will alternately increase and decrease the lumen of these vessels, acting consequently as a suction-pump,[1] which of course will be of value for people of sedentary habits with their generally sluggish peripheral circulation.

Here comes in another period of rest.

7. The patient kneels on the bench; the gymnast, standing behind, takes hold under the armpits and allows the patient to fall forward to some extent while giving a pressing support to the patient's pelvis with his knee on the sacrum, and executes thereafter an oscillating movement of the trunk by making alternating sudden tractions on his shoulders. The movement, which though in itself passive, is very tiresome on account of the position, cannot be repeated more than a few times, and must be carefully executed, especially in females. It must never be used in cases of hernia, prolapsus uteri, or uterine displacement.

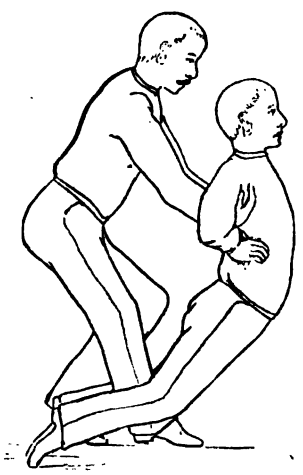

FIG. 9.

8. After this a respiratory movement is to be recommended in order to regulate the circulation, which perhaps has suffered by the preceding, and "arm-circumduction under toe-heaving" seems to be suitable. The gymnast standing behind the patient makes the circumduction forward, upward, outward, downward, trying to bring the arms as far back as possible in sinking. The patient rises on tiptoes, when the arms are brought forward and upward, and sinks down again when the arms are brought back. Care must be taken to do the movement according to the natural rhythm of respiration, *i.e.*, the arms to be elevated during the inhalation and *vice versa*.

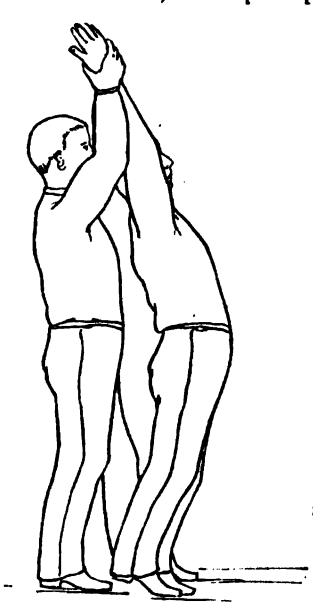

FIG. 10.

These movements, or substitutes for them, for the execution of which about forty-five minutes to an hour are required, will be enough in the majority of cases. For very strong persons several groups may be added, containing different forms of trunk-bending, twistings, and circumductions as active movements, and a great variety of passive movements and manipulations; but we must always bear in mind the golden rule, rather do too little than too much, as nothing is gained by exhausting the patient.

When piles have their origin in constipation they disappear with the cause, and the means employed for the relief of the constipation is, therefore, indirectly, also in piles. When hæmorrhoids are the result of pregnancy or tumors in the pelvis, they probably very seldom, if ever, come under the hands of the masseur or medico gymnast; but when the source is to be found in pulmonary or cardiac diseases, they must, of course, not be overlooked as a symptom of the deranged circulation, and must be healed accordingly. The stagnation in the abdomen must then be relieved by movements (both active and passive as far as the general condition will allow) and massage of the lower extremities, which then also tend to relieve another symptom in these cases—the cold feet. Respiratory movements of many forms are of great value as improving the general circulation, while local massage, consisting mostly of strokings and pressings on and about the piles, are recommended by many, *e.g.*, Hartelius[1] and Nebel.[2]

Most gratifying results are often obtained in cases of prolapsus ani, and I have found the prescription of Brandt to be an excellent one. He gives the patient first the sacrum percussion, already described in connection with constipation, after which he uses his "lifting of the S. romanum," which he describes as follows:[3]

"The position of the patient is the common 'crook-half-lying' (see Fig. 7). The gymnast places himself on the right side of the patient. With his left hand over the shoulder and under the axilla of the patient, he tries, with his right hand on the abdominal wall over the patient's left groin, easily and carefully to push them down ward and inward toward the inner side of the os ilium and there with a fine vibration to come under the first curvature of the S. romanum. The movement is then executed toward the back of the patient and toward the gymnast's own left hand. If correctly executed, the patient will plainly notice a pulling in sensation of the rectum. The movement is repeated three to four times."

In addition to these movements of a more local importance, the programme should contain such as will have a strengthening effect on the musculature of the whole lower part, especially the levator ani, besides movements of a more general character.

From what is said above about constipation, it is evident that the treatment recommended for this trouble also must be of value in dilatation of the bowels, as the whole treatment, as laid down above, is based upon efforts to cause the involuntary muscles to contract.

[1] Lovén: Blode toch ders Kretslopp, cited by Hartelius, op. cit., p. 207.

[1] Op. cit., p. 277.

[2] Bewegungskuren mittelst Schwedischer Heilgymnastik und Massage, p. 260. Wiesbaden, 1889.

[3] Gymnastiken såsom bote medel mot qvinliga underlifssjukdomar, p. 163. Stockholm, 1884.

A NEW EXTEMPORANEOUS LITTER, COPIED AFTER THE MOJAVE INDIAN METHOD OF CARRYING THE WOUNDED.

BY CHARLES ALBERT SEWALL, M.D.,

ACTING ASSISTANT SURGEON, U.S.A.

WHILE serving at Fort Mojave, A. T., in 1888, I had a wounded Indian, "a Mojave," brought to me for treatment. The patient had his whole arm and forearm shattered by the accidental discharge of a shot-gun; I found it necessary to amputate the limb at the shoulder joint.

The wounded man had been brought over seventeen miles, and his remarkably good condition and the comfortable manner in which the "Indian" Mojaves had taken care of him, called my attention particularly to their peculiar and ingenious method of transportation.

In looking over some of the literature of this subject I have been unable to find anything exactly like it. The materials are always at hand and the contrivance is simple and comfortable, not only to the patient but for the litter-bearers. It is so much easier to carry a load for a distance on the shoulders than by the arms stretched at full length, as they are while carrying the two-handled litter.

The country in the Colorado River bottom, in Arizona, is exceedingly hot in summer, and at the time of year when the man was wounded the average day and night temperature was 110° F. in the shade.

The comrades of the wounded Indian had exercised much care in his removal over a long, arid, hot river bottom country. They had gotten a wagon sheet of canvas somewhere and a long cottonwood pole; the canvas was loosely tied at the ends, just as one would tie a sling around the neck for a wounded arm, and the pole was slipped under the loosely tied ends, so that when his brother Indians stood erect with the ends of the pole on their shoulders, the canvas bag where the wounded Indian was lying was about from two to four feet from the ground. I tried their palanquin-like arrangement by getting in it myself, and found it to be comfortable and pleasant to ride in.

In this instance, where the wounded part was an upper extremity, the slightly flexed position of the body of the patient secured an easy way of riding.

It will be found in Stanley's "Through the Dark Continent," that some of his itineraries were made in a cot or hammock-like arrangement, carried on a pole, but nothing exactly like the above has ever before been shown, to the best of my knowledge.

The materials are as follows: First, a pole, about ten feet long, of sufficient stoutness to carry the weight of a man; the pole may be taken from a fence, or a sapling may be cut for this purpose, and must be moderately smooth, stout, and strong.

Second, a piece of canvas, stout muslin, or an army blanket. This part of the apparatus may be anywhere from 5 × 5 feet, or less, up to 12 × 12; or if it be slightly greater or less in size it does not matter.

In the third place, the cloth, muslin, blanket, or canvas has to be secured to the pole near its ends, leaving just room enough for two men to carry the pole on their shoulders by its extreme ends, and the patient is placed at full length in the bag formed by this sling.

The method of securing the ends of the canvas, cloth, muslin, or blanket, to the ends of the pole, deserves consideration. In the case of canvas the Indians I noticed simply tied a loose "granny" knot at the ends, and slipped the pole under, and when the pole was lifted up by the bearer the bag was formed. This plan I have adopted in all cases where the material is susceptible of being tied and will lie in a flat knot.

It has been suggested to me by Brevet Major-General Eugene A. Carr, U.S.A., that blankets, as an easily available material, would be a fine thing to use for the army in the field, and a device suggested by Major Washington Matthews, Surgeon, U.S.A., by which the blanket is secured to the pole at the ends, I have found to answer most admirably. In each corner of the government blanket, an ordinary gray one, a stone about the size of a lemon is secured by a stout sling or cord, firmly binding it in place, and the corners of the ends of the blanket are fastened together; the pole is then slipped under and when lifted up by the litter-bearers it will be found to be secure and all danger of slipping avoided.

In order to obviate a tendency to slip toward the middle of the pole, which will occasionally be observed, it may be found necessary to drive a small nail on the inside of where the knot or tie comes, or a notch may have to be cut in the pole with a penknife.

The canvas has been found by experience to slip toward the centre much less often than the blanket arrangement.

FORT WINGATE, N. M., July 30, 1890.

Progress of Medical Science.

Recent Views on Diabetes.—The *Lancet* says that diabetes is a disease full of interest, owing in great part to the lacunæ that still exist in our knowledge of its essential nature, and also of the affection standing as a type of disorders in which the processes of nutrition are gravely deranged, and upon which, in consequence, physiological inquiry has an obvious bearing. Dr. Saundby's able exposition of the varied lesions met with post mortem in diabetics, a lecture in which he condensed the results of extended personal observation and study, is especially welcome, since it has dispelled once and for all the notion that morbid anatomy has little to teach on the matter. For, although it must be admitted that many of the lesions he described in the various organs of the body are such as could be adequately referred to the perverted nutritional processes of which the existence of glycosuria is only one indication, it cannot be denied that some of these changes may well stand in quite another relation to the disease itself. Dr. Saundby himself particularized the pancreatic lesions, and the even less constant changes that have been met with in the sympathetic system as having, perhaps, a causal importance. Indeed, there are few subjects more interesting to note than the revival of the notion, advanced by Lancereaux, that disorder of the pancreas can induce diabetes; an opinion fortified by the experimental researches of von Mering and Minkowski, as well as by isolated cases of disease or extirpation of this organ in the human subject. At the same time it would appear that the relationship between pancreatic disease and diabetes is far from being constant. The Bradshawe lecture will be found of value in the incentive it will give to morbid anatomists to utilize their opportunities of making their records of diabates as thorough and complete as possible, by following the lines laid down by the lecturer.

The debate at Berlin served to bring to a common point the wide experience of such eminent authorities as Pavy, Dujardin-Beaumetz, and Seegen upon the all-important question of the treatment of diabetes. Dr. Pavy, who opened the discussion, took the view that diabetes depends on the abnormal entrance into the general circulation of sugar derived from the ingested carbohydrates, rather than on the failure of the organism to destroy the sugar which has already gained entrance. Thus, he pointed out, the liver acts as a kind of storehouse, in which the products of carbohydrate ingestion are arrested normally, but that in diabetes this arrest does not take place, and the sugar entering the general circulation is eliminated by the urine. The phenomena of the disease are thus attributable to the waste of material which should naturally be utilized in the economy, and also to the presence in the blood of an excess of sugar. On these hypotheses he finds the *rationale* of the ordinary dietetic measures which seek to restrict the carbohydrate elements of food; but unless the natural power of assimilation of such material can be restored we cannot be said to cure diabetes. In opium and its derivatives, morphine and codeine, Dr. Pavy thinks we possess remedies which aid in the restoration of this assimilative power. Dr. Dujardin-Beaumetz (whose paper was read in his absence) makes no distinction between glycosuria and diabetes mellitus, for, he remarks, the latter condition itself may be but a symptom of hepatic, pancreatic, or cerebral disease. Prognosis is based on the results of

dietetic treatment; the mild cases being those in which a fortnight's restricted diet expels the sugar from the urine; while between this class and the severe intractable cases comes a category where the sugar, although much reduced in quantity, does not wholly disappear. A complete cure is, in his opinion, rare; there always remains a glycosuric tendency. He alluded to the difficulty of making a healthy person diabetic by ingestion of large quantities of sugar, and held that the nervous system had much to do with the initiation of the disorder. The essential thing in treatment is the regulation of diet, and the entire replacement of carbohydrates by fatty foods. He thought that a good and pleasant diabetic "bread" was still a desideratum, pointing out that "gluten breads" contain a considerable quantity of starch. Indeed, potatoes, which have only 8.5 per cent. of carbohydrate, are preferable to gluten bread, which contains as much as 20 to 30 per cent. He forbids fruit, milk, and alcohol, but allows tea, coffee, maté, or kola. The use of saccharin was mentioned as a decided gain. Dr. Dujardin-Beaumetz also dwelt on the value of gymnastic exercises and hydro-therapeutics, and the use of alkaline mineral waters; while for drugs he favors lithia, arsenic, quinine, bromide of potassium, and antipyrin.

Professor Seegen entered at somewhat greater length into the physiology of diabetes, pointing out that sugar is formed in the liver, but not, as Bernard taught, directly from glycogen, the destiny of which is to be converted into fat, and thus possibly to act as a reserve for sugar formation. For he holds that the liver can form sugar from albuminoids and fats, and that in health this sugar is utilized in the tissues in the production of heat and energy. Distinguishing two forms of diabetes, the mild and the severe, Professor Seegen thinks that in the former the sugar is derived directly from ingested carbohydrates, owing to the failure of the liver-cells to transform them into glycogen; but that in the severe forms sugar may still be formed, although no carbohydrates are taken; its retention in the blood is then due to a failure in tissue metabolism generally. In either case—although the duration of the disorder is so widely different—there can never be a *real* cure "in the sense that the patient may partake with impunity, as may the healthy, of an excess of starchy foods." He concurs with all other authorities in placing the dietetic treatment in the front rank; but is by no means so rigid in his prescription as most, for he finds that an absolute meat diet is not well tolerated, and cannot be enforced. The diet must therefore be such as will be agreeable to the patient, since he has practically to subsist on it all his days. There is no indication for giving him more meat than a healthy individual requires, and a small quantity (40 to 60 grammes) of bread may be allowed; besides green vegetables and acid fruits in moderation. Like Dr. Dujardin-Beaumetz, he spoke against gluten bread being considered as free from starch; if given at all, it should be in restricted quantity. The alkaline mineral waters, as Carlsbad, Vichy, and Neuenahr, seem to increase the tolerance for carbohydrate food; but Professor Seegen uttered a warning against encouraging people to travel far to health-resorts, as the fatigue involved is most injurious to diabetics.

Dr. Lepine also spoke, referring particularly to his repetition of the experiments on extirpation of the pancreas by von Mering and Minkowski, and attributing the production of glycosuria thereby to the absence of a sugar-destroying ferment formed in the pancreas. Professor Cantani said that in the "alimentary diabetes" so common in Italy, the restriction of diet to fats and proteids was most useful, but it had less value in cases of neurogenic origin. He only regarded these cases as *cured* when the urine remained free from sugar, in spite of the ingestion of considerable amounts of carbohydrates; and although in many such cases, in the course of years, the diabetes again appeared he looked upon such reappearance as a fresh attack of the disorder and not as a relapse. Opium he regarded as harmful.

The Local Treatment of Tubercular Laryngitis.—Dr. Bronner divides cases of tubercular laryngitis into two classes: 1st, Those cases which are prevalent in the early stages of pulmonary phthisis, where there is a peculiar anæmic condition of the whole mucous membrane of the larynx, a slight paresis of the laryngeal muscles, and a peculiar and persistent catarrh of the vocal cords; 2d, those cases where there is infiltration, perichondritis, and ulceration. Where there is only an anæmic condition present, hot inhalations with oleum pini sylvestris or eucalyptus can be used, together with general tonic treatment. In cases of paresis of the adductor muscles, the local application of a five to ten per cent. solution of nitrate of silver often relieves the symptoms. In the treatment of catarrh, the local application of a two to ten per cent. of nitrate of silver, or of five to ten per cent. of chloride of zinc, seems to act very well. In severe cases of infiltration the author considers that the only rational mode of treatment is to make free incisions into the affected parts with a knife or scissors, but this plan is not recommended by all laryngologists. Where there is ulceration, either of the vocal cords, the false vocal cords, or of the inter-arytenoid region or epiglottis, the most efficient and reliable treatment is the application of lactic acid. One begins with a twenty per cent. solution, gradually increasing the strength to eighty or ninety per cent. It should be applied by means of cotton wool on a silver probe, and must be well rubbed into the affected parts. Cocaine should be applied before and after the application, in order to prevent any pain or subsequent swelling. Some observers prefer menthol to lactic acid, but the author does not think the former affects the ulceration so readily as lactic acid. After the application of the lactic acid, it is a good plan to use some iodoform, in the form of insufflation. In advanced cases, where local applications fail to cure the ulceration, it is usual to resort to surgical treatment. The only effectual way to treat these cases is to scrape thoroughly with a sharp curette. Since the introduction of cocaine, quite a revolution has been effected in the treatment of laryngeal disease; there is now no difficulty in applying local treatment to almost any part of the larynx without giving the patient pain. As a last resource, in cases of severe laryngeal ulceration, when local treatment fails, and the lungs are fairly healthy, the author strongly recommends early tracheotomy, though it is seldom that patients will consent to it.—*The London Medical Recorder.*

Camphorated Naphthalin has been recommended by L. Keutmann, the camphor concealing the disagreeable naphthalin odor. It is prepared by melting together the two ingredients in the proportion of one of camphor to four of naphthalin.

The Virtues of a Little Faith.—The following incident occurred in a Midland infirmary, and it is sketched on the spot from life. The visiting physician wrote on a patient's board that he was to take five drops of pure terebene thrice daily "on a little bread." This simple direction was misread by the nurse, who proceeded solemnly to anoint her patient's head three times *per diem* over a period of several weeks. Whether the mistake arose from the bad handwriting of the physician, or through the spluttering of the ward pen, which is usually a blunt and unreliable weapon, or from the defective eyesight of the nurse, does not much matter. The instructive and suggestive point to the incident is supplied by the fact that the patient expressed himself much benefited by this novel method of medication. The physician, therefore, on discovering the error, allowed him to recover under its soothing influence. The attention of disciples of the strange new mystery, hypnotism, may be called to this narrative with advantage.—*Medical Press.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, October 25, 1890.

PLURAL BIRTHS.

SINCE the Dublin Rotunda Lying-in Hospital was founded, one hundred and thirty-four years ago, about two hundred and twenty-six thousand women have been delivered in it, and of this number only one had four children at a birth. Among 125,956 cases of delivery recorded at St. Thomas's, Guy's, and St. George's Hospitals, Dr. George Foy, who examined the records, found no case of quadruplets. Two or three quadruple births per million seems to be about the rate, therefore, in European countries, and reports of such births are not excessively rare.

A good deal of curious literature has grrown up about the subject of Plural Births. One hundred years ago Dr. Garthshon, of London, published "A Remarkable Case of Numerous Births, with Observations." His "remarkable case" was one of quintuple birth; he refers also to a quarto pamphlet, published in 1674, entitled, "The fruitful wonder, or a strange relation, from Kingston-upon-Thames, of a Woman who, on Thursday and Friday, the Fifth and Sixth Days of this Instant March, 1673–4, was delivered of Four Children at one Birth, viz., Three Sons and One Daughter, all born alive, lusty Children, and perfect in every Part, which lived Twenty-four Hours, and then died, all much about the Same Time, with several other examples of numerous Births, from credible Historians, with Physical and Astrological Reasons for the Same. By. J. P., Student in Physic."

The records of quintuple births are mostly of ancient date, though a very few are recent and authentic.

Dr. George Foy, in the *Medical Press*, has collected all the cases of quintuple births of which he could find records, and they number less than a dozen.

When it comes to sextuple births one has to go back to previous centuries for most of the records. Five at a birth is put down as the utmost limit of human fecundity. Such, at least, was the dictum of Aristotle, and obstetric history has very well supported his opinion. Nevertheless a sextuple birth was reported about a year ago by Dr. Ancarani, of Milan.

Furthermore, in 1885 Señor Caulala Piedrod reported the case of a woman of Valladolid who gave birth to seven children; but the case was reported first in a secular paper, and afterward copied by the local medical journal.

Ohio has the proud pre-eminence of having got a head by one birth of Valladolid. In 1872 a lady of Turnbull County gave birth to eight children. But here again the report comes from a lay paper, the *Boston Journal*, of September 26th.

One instance of octuple 'birth, however, has been reported by Dr. Wateving, a French physician, and reported in a reputable medical journal, *La France Médicale*, June, 1880.

While we may accept the possibility of sextuple births, one's credulity must be somewhat strained in order to believe in any figures beyond this.

We are not going to deny, however, the truth of the tale of the Countess Margaret of Heneberg, because its moral is too valuable and its improbability not greater than that of other well-accepted stories.

On a tablet in the church of Lonsdunen, near Leyden, is the following:

> "En tibi monstrosum nimis et memorabile factum,
> Quale nec a mundi conditione datum
> Ostendam."

Underneath this follows a prose accout of the miracle, which is thus summarized from Schench, lib. iv., p. 358, by John Maubray in "The Female Physician," 1724: "The Countess Margaret, Daughter of Florent IV., Earl of Holland, and spouse of Count Herman of Heneberg, who on Good Friday, in the year of our Lord 1278, and of her age 42, brought forth at one birth 365 infants; whereof 182 are said to have been Males, as many Females, and the odd one an hermaphrodite, who were all baptized, those by the name of John, these by the name Elizabeth, in two brazen dishes, by Don William, Suffragan Bishop of Treras.

"The basons are still to be seen in the village church of Losdun, where all strangers go (on purpose) from the Hague, being reckoned among the great curiosities of Holland."

Tradition ascribes the affliction to the curse of a poor woman who was carrying twins, and who was not only refused alms by the Countess, but was insulted by being told that her children were born of different fathers, "whereupon the poor woman prayed God to send her as many children as there were days in the whole year; which came to pass as is briefly recorded in this tablet for perpetual recollection, testified as well by ancient manuscript as very many printed chronicles."

Since this time the ladies of that country have ceased to make fun of twins.

AN OPERATION FOR THE CURE OF MICROCEPHALUS.

Now that surgery has dared to lay its hand upon the human brain, it is not strange that efforts should be made by operators for the relief of those unfortunate children whose defective mental development seems to be due simply to premature ossification of the sutures of the skull. Formerly it was believed that this was the sole cause of microcephalus. Recent investigations have shown, however, that although the sutures and the fontanelles are abnormally narrow in such children (undue closeness of the bones but not ossification of the sutures being found), yet there is likewise in many, if not in all, cases some disease-process in the brain itself, or its immediate envelopes, not the result of the cranial narrow-

ness—ventricular or meningeal dropsies being found, and also limited or diffuse sclerosis of the cerebral substance, coinciding closely with thickeningss or thinnings of the adjacent bony walls. Nevertheless it seems right that, when microcephalus exists, an attempt should be made, by removing the resistance of the skull over important centres, to promote the growth of the confined tissues, or at least give them a chance for a new start.

In the *Union Médicale* (Paris), July 8, 1890, Dr. Lannelogue relates that, led by such considerations, he had performed the new operations of "craniectomy" on one patient with what seemed to be pronounced success. The patient, a girl, aged four, of healthy stock and parentage, was born at term, in an apparently healthy condition, and had five healthy brothers and sisters. She was, from birth, more backward than others, and until the third year took only liquid food. Upon examination she was found to be not larger than a feeble child of two years. The saliva escaped from the mouth as in an infant. The eyes were bright and mobile, but her attention could not be held, and she took no interest in what went on around her. She lay constantly in her crib, making frequent inarticulate cries and babbling monosyllables as she moved her body incessantly and aimlessly. She could not stand upon her feet, and when held up and moved forward made no effort to walk, but merely moved the lower limbs up and down rapidly and aimlessly on the same spot. When released she fell all in a heap upon the floor. No contractures nor paralysis could be detected, the general sensibility was normal, the reflexes were not increased, and there was no epileptoid trepidation. The head was small and deformed, the skull being narrow and flattened transversely, bulging at the vertex, after the scaphoid type. The face was prognathous and hatchet-shaped, the nose being large and the forehead receding and very narrow.

Operation having been decided upon, a long and narrow opening was made in the left parietal bone, at the distance of a finger's-breadth from the median line, parallel with the sagittal suture, about nine centimetres long and six millimetres wide. It was very easy to cut this trench through the bone with a stout forceps after a little round opening had been made at one end.

The dura mater was not disturbed. Hemorrhage of the soft parts was at once arrested, and there was practically no loss of blood from the diploe or the meningeal arteries. Care was taken to leave no periosteum in the bony trench, and the surface wound was accurately adjusted without drainage, the line of suture being, as was intended, not directly over the cut in the bone, but to one side of it. Cicatrization occurred rapidly, without suppuration or fever. During the operation a serous liquid exuded in very fine droplets from the surface of the dura mater, and this oozing continued for four or five hours under the first dressing.

The operation was performed on the 9th of May. About the 1st of July her condition was as follows: She has changed greatly for the better since the operation. She is much more calm than before. The almost ceaseless cries which she uttered were discontinued the day after the operation. She now seems to interest herself in what passes around her, playing, laughing, and seeming quite happy when she is noticed. She understands, tries to speak, and pronounces some words. She stands upright by herself without aid, and no longer makes the rapid treading movements. She walks and makes quite regular steps, tottering a little when she hurries, as children do when learning to walk. She does not slaver now. In fine, the phenomena of cerebral excitement, as indicated by incessant cries, and by treading movements of the lower limbs when she is held upright have disappeared. The development of intelligence seems to be making good progress. She can now eat at the table. The cicatrix is mobile and not adherent. At one side of it can be felt a depression, linear and narrow, corresponding to the loss of substance in the bony vault. A part of the good result is doubtless due to the training which the child has received in the wards—which should be always included in the after-treatment of such cases, yet it is evident that the operation may claim a good part of the success.

On June 20th a second patient was operated on, a child of still more marked type of microcephalic idiocy than the former. Two liberating canals were cut, one through the left frontal and the other through the left parietal bone, a bridge being left at the fronto-parietal suture. The results so far were good, the wound healing rapidly.

THE DEADLY CIGARETTE.

It is not very uncommon to see an item in the daily papers to the effect that a boy has killed himself by cigarette smoking. During the past week two cases of this kind were reported. One was that of a boy of fourteen "in whom heart disease had been superinduced by excessive use of cigarettes." In the other case the boy, who was sixteen years old and an inveterate cigarette smoker, hung himself because his father refused to give him money to buy more tobacco.

A year ago Dr. Broomhead reported the case of a boy aged thirteen who died presumably from the results of cigarette smoking. In this case a valvular disease of the heart also was found on autopsy. Since it is not admitted that tobacco can cause organic heart disease, we infer that cigarette smoking is fatal in boys who have organic cardiac or other disease already.

The suicide of the boy cigarette smoker calls attention to the existence of the nicotin psychosis recently described by Kjelberg. It occurs, he thinks, oftener in tobacco-chewers and snuff-takers, but also in smokers. It begins with the symptoms of malaria, insomnia, nervousness and depression; after which hallucinations develop, fixed ideas and a tendency to suicide follow. It is not unlikely that the boy who committed suicide in this city lately was the victim of the nicotin insanity described by Kjelberg.

AMERICAN VERSUS EUROPEAN DIPLOMAS.

The *Medical Press and Circular* makes some sympathetic and kindly comments upon the subject of American medical diplomas. It refers to the discussion upon this subject which took place not long ago in the columns of the Record, and expresses gratification at the tendency toward improvement which American medical colleges are showing. This is an altitude of mind which is but

just, yet it is one which our European confreres do not often assume. The number of reputable medical colleges in this country which allow graduation after two courses is rapidly lessening. We believe that after the coming year all the great schools in this city and Philadelphia will make three courses compulsory. With such examples the colleges all over the country that desire to have any standing whatever will have to make a similar advance.

HYPNOTISM AND CRIME.

THE sentence, in Paris, not long ago of a hypnotist to penal servitude for procuring from a somnambulist a check for 10,000 francs, brings home to us, says the *New York Times*, as a practical matter, the possibilities for crime which the facts of hypnotism offer. A writer in the current *Contemporary Review* cites a number of cases which apparently show it to be possible that the greatest crimes may be committed by hypnotists, or at any rate upon hypnotized persons.

The writer in the *Times* adds that it sees no harm in public exhibitions of hypnotism; while the suggestion that an investigation of its phenomena be limited to the medical profession is not satisfactory. For it adds: "The attitude of the profession to the subject has not been historically very satisfactory. They have ridiculed it in the past, and the fear has been expressed that if in the future it should be given over entirely into their hands, they might turn the lock upon investigation. Such a limitation, furthermore, would be extremely difficult to carry out in practice."

Since the *Times* sees no harm in public exhibitions of hypnotism, but does see objections to limiting its investigation to physicians, we would submit to it the reasons for suppressing them, recently set forth by the Russian medical department. It announces that, "In consideration, 1, that public exhibitions of hypnotism cause considerable injury to the health of subjects experimented upon, as well as of spectators witnessing the experiments, the performances being apt to give rise to the development in hypnotized persons of various hysterical, nervous, and even mental affections, which may sometimes amount to a genuine epidemic of hypnotic mania; 2, that such public hypnotic entertainments offer to evil-minded subjects a good opportunity for studying methods of hypnotizing, and for subsequently practising them for various immoral or criminal purposes; 3, that generally such hypnotic performances, being not accompanied by any rational explanation, can breed in the public only erroneous notions, and even implant superstitions, while post-hypnotic suggestions can constitute a source of disturbance of order and the peace of the community by hypnotized persons, and even of committing criminal deeds by the same, the Medical Council has resolved: 1, That henceforward any public *séances* of hypnotism and magnetism are strictly prohibited; and 2, that the application of hypnotism for medical purposes can be permitted solely to medical practitioners, under the condition that the operation is to be practised invariably in the presence of other medical men."

The Garfield Hospital, Washington, D.C., has received a bequest of $10,000.

News of the Week.

The "Grip," which visited us so severely last year, has appeared to a slight extent this Fall. A few cases also have been noted in London.

The Hospital Saturday and Sunday Association held its first meeting for the Fall this week. Among other things they awarded first and second prizes for hymns composed for use on Hospital Sunday.

Paying Practice.—There have been a good many attempts to estimate the average annual income of American physicians, but the variations are so great that no very definite sum can be assumed. Taking only those who have been practising at least ten years, perhaps $1,500 or $2,000 would represent a fair average in the North and West. If a business publication called *The National Medical Exchange* can be credited, however, the country teems with $2,000 and $3,000 practices to be had almost for the asking. Among ninety-three practices for sale nearly all are stated to be worth $2,000, $2,500, or $3,000, a year, while some range much higher. A two thousand dollar homœopathic practice in a town in Ohio is offered for $500 cash. A four thousand dollar practice in New Mexico is offered for $500 cash. Other practices are offered at higher rates.

Dr. Amandus Ferber, a well-known physician of this city, died October 21st, of consumption, at his residence, 79 Second Avenue. He was fifty-eight years of age, and was born in Hamburg.

A Physician Cremated.—The body of Dr. A. B. Carpenter, a prominent physician of Cleveland, O., was incinerated at the Buffalo Crematory, October 21st.

A Well-defined Epidemic of Suicides is at present passing over Europe, in Austria and France, says the *New York Times*. The numbers of self-murders are larger this year than for a long time past. In Germany the annals of daily life in great cities in the past month have been exceptionally full of such records, varied occasionally by horrors such as those recorded lately from Berlin, where a well-to-do head of a family murdered five children in their sleep.

The Cholera.—The epidemic of cholera in Japan is said to be declining in force. Up to the latter part of September there had been 25,723 cases and 16,463 deaths. In Spain there have been 3,658 cases and 1,874 deaths since the epidemic began.

The London Post-Graduate Course.—Six years ago the New York Post-Graduate Medical School was incorporated, and it must be with no little satisfaction and pride that the founders now read of the establishment of the London Post-Graduate Course, with J. Hutchinson, F.R.S., at its head, supported by such men as Dr. J. S. Bristowe, Mr. Reginald Harrison, and Mr. Frederick Treves. Paris now, as well as London, has a school for post-graduate instruction; and it is indeed a suggestive fact that these two centres of all former post-graduate learning have felt the necessity of taking the pace set by New York. We send our felicitations to the London school, and wish it a like success to that which the parent school here has had.

The New Jersey State Medical Board.—The first series of examinations to be held under the supervision of the newly-organized State Board of Medical Examiners, in conjunction with the new law, began on Thursday, October 9th, at 9 A. M., in the Senate chamber of the State Capitol at Trenton.

The Kansas Medical College.—The opening exercises of the new Kansas Medical College, at Topeka, were held on the 23d ultimo. Dr. J. C. Minney is the dean.

The Aultman Hospital.—The corner-stone of the new Aultman Hospital, at Canton, O., was laid on the 28th ultimo. The building will contain forty rooms.

Another Swindler.—A shrewd swindler has recently been victimizing the physicians of Columbus, O., by representing that he is a special agent of an insurance company, and appointing them medical examiners of the same. His plan was to call upon a physician, representing himself to be an agent and about to establish a local agency, of which he would appoint the physician upon whom he called a medical examiner. In this manner he victimized several doctors out of sums ranging from $5 to $10.

The Southern Surgical and Gynecological Association.—The next meeting of this association will be held at Atlanta, Ga., on November 11, 12, and 13, 1890.

High Altitudes in Phthisis.—Apart from the extent of the disease, says the *Lancet*, certain constitutional states are contra indications to high altitudes in phthisis. Of these the most important are the rheumatic and gouty conditions, feebleness of the circulation, bronchitis and emphysema, and, lastly, albuminuria. We need have very little hesitation in deciding that no case presenting any of these features can be sent to Davos, St. Moritz, Wiesen, Denver, the Adirondacks, or other high-altitude station, with any reasonable prospect of benefit.

Cœliotomy.—In the interest of correct etymology, appropriate nosology, and the general and eternal fitness of things, Dr. Robert P. Harris wishes surgeons to say "Cœliotomy" instead of "Laparotomy."

Treatment of Chancroids.—At Charity Hospital last week I saw what I consider an improvement in the method of circumcision for chancroids under the prepuce and such ilk. Two lateral flaps are made exposing entirely the glans penis and ulcer. The ulcer is then treated and the flaps are allowed to take pretty much their own course. When the ulcer is healed the flaps are removed and stitches used if necessary. The results are beautiful, and the simple incision which constitutes the primary operation is easily made.—New York Correspondence St. Joseph *Medical Herald.*

Koch's Cure for Consumption.—It will be remembered that Professor Koch created a certain sensation at the International Medical Congress by stating that his unceasing efforts to find a remedy for tuberculosis seemed at last about to be crowned with success. Since then experiments with the new remedy have been going on in Professor Senator's department of the Charité. The time is, of course, much too short for anything like definite results, but as the experiments proceed the veil of secrecy will no doubt be lifted.—Berlin Correspondence *British Medical Journal.*

A Congress of Midwives.—The first Prussian Midwives' Congress was held in Berlin on September 22d and 23d. Six hundred midwives from all parts of Prussia, including the presidents of all the Prussian societies of midwives, were present. Vienna and other parts of Austria were represented. Lectures were delivered, mostly by authorities in obstetrics, and were reported with a view to publication.

Dr. C. Handfield Jones, of London, died at his residence, on September 30th, aged seventy-two years. He was best known by his work on "Functional and Nervous Diseases."

A Medical Monopolist.—The little island of Heligoland is an exceptional bit of territory in many respects, among others in this, that never in the recollection of the "oldest inhabitant" has it been the seat of professional jealousies. Why is it so favored? Because only one medical man (dentist, surgeon, general practitioner, all in one) is to be found the length and breadth of the island. No sooner, however, had Germany taken possession of her new appanage than this delightful state of things seemed destined to come to an end. An announcement appeared in the *Heligoland Gazette*, stating that a second German M.D. would shortly take up his residence in the island. Of course the Heligoland doctor was up in arms at once. He appealed to the new governor, quoting the Emperor William's dictum that the rights and privileges of the Heligolanders were to be respected and to remain unchanged "for the present," and the result is a decree leaving him in undisturbed possession of the sole right of practice in the island.—*British Medical Journal.*

The Leprosy Question is one that will not "down," at least in England. A recent report by the Leprosy Investigation Committee shows an interesting diversity of opinion upon nearly every phase of the subject. Even the contagiousness of leprosy is held in doubt by some experts. Dr. Beaven Rake speaks with scepticism of the immortal case of Father Damien; Dr. Jonathan Hutchinson sticks to his fish-diet theory, and is treated much more kindly by his English confreres *in re* this hypothesis than one would expect; for he only illustrates obstinate adherence to what is utterly untenable. The very slight degree of the contagiousness of leprosy must be admitted by all, and it makes the elaborate attempts at quarantine and isolation of some of the poor victims in this country seem absurd, if not actually barbarous.

The Provincial College of Physicians and Surgeons.—The semi-annual meeting of the Provincial College of Physicians and Surgeons was held recently in the Laval University, Montreal. Thirty-two applicants received their licenses and were sworn in before the Hon. Dr. Ross, President of the Board, last night.

The Rush Hospital.—The charter for the Rush Hospital for Consumption and Allied Diseases having been granted by the Court of Common Pleas, the incorporators have met in the College of Physicians, Thirteenth and Locust streets, Philadelphia, and adopted by-laws for the government of the institution. The object of the hospital, as set forth in the charter, is the treatment and study of consumption and allied diseases, and the improvement of medical knowledge in regard to the same.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, October 2, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

The New Academy Building.—Although the meeting was the first to be held in the new building on West Forty-Third Street, the President stated that a formal dedication would not take place until the anniversary meeting, November 20th.

Skin-grafting after the Method of Thiersch. — Dr. Charles McBurney read the paper (see p. 453).

DR. L. A. STIMSON had looked upon Thiersch's method with indifference until he learned of Dr. McBurney's success with it. Since then he had employed it in a number of cases. In old ulcers the result had not been, on the whole, permanent. But he had succeeded with it in covering an epitheliomatous ulcer of the thigh, four by six inches, sparing the patient a hip amputation, which had been suggested by a medical colleague.

Skin-grafting on the Eyelids.—DR. HERMAN KNAPP referred to the case mentioned by the author in which only the outer surface of the cartilage of the eye was affected by an epithelioma. But there were other cases, he said, which were more difficult to manage. For instance, a child fell against a stove, burning the skin over the closed eye; subsequently cicatrices fastened the eyelashes to the eyebrows; the inner surface of the lid became completely everted. The treatment should consist in separating the parts, freshening the raw surfaces, and covering by skin flaps taken from the arm according to Wolf's method, which, he said, was nothing else than a modification of Thiersch's. But he had not thought of following Thiersch's method in these cases as preferable to Wolf's. Operations upon the upper lid had always proven successful in his hands, but not so in the case of the lower lid where tears interfered with union. The grafts should have no subcutaneous tissue if possible. He had been accustomed to stitch them in place. The drawback was the fact that the flaps shrunk greatly.

Hope for Bald Heads.—DR. P. A. MORROW said he had had no personal experience with Thiersch's method. He had used grafts very much thicker than those mentioned in the paper—grafts which included not only the entire thickness of the derma, but also subcutaneous tissue beneath. He had been led to do this in the case of a man who had become somewhat hypochondriac because of a scar on the scalp, which in later years became exposed from scarcity of hair. He first took grafts from the patient's own scalp, on the opposite side, by means of the cutaneous punch, and immediately transplanted them into holes of the same size made by the same instrument in the scar tissue. Very much to his gratification, union was perfect within a week. Four grafts were first made, and he waited several weeks to see whether the hair would grow. It did. He then made transplantations from another patient's scalp, and these also grew and bore hair luxuriantly. The grafts were fully a quarter of an inch thick. There was no suppuration, no untoward result. He had employed the same method in one or two cases of epithelioma, and, while there was no indication of breaking down, there had not been sufficient time to justify conclusions. He thought the method had a wider field of application. For instance, it might be adopted in lupus, and in removing moles, warts, and other facial blemishes.

Grafts from a Negro on a White Man.—DR. JOHN GIRDNER said there was one objection to Thiersch's method, namely, that the new skin was very delicate, and more likely to break down and ulceration return than under the Reverdin method. Where, under the latter method, the islands existed, the skin was deeper and firmer, while the edges were thin and delicate like the Thiersch grafts. He once placed grafts on a white man from a negro; they remained black for a time, but gradually assumed the white appearance of the surrounding skin.

DR. MCBURNEY said, in closing the discussion, that it was evident the different methods mentioned had their special application. In the class of cases referred to by Dr. Knapp, he had operated in a similar manner. He had not practised the method mentioned by Dr. Morrow, but thought it might prove very useful in a special field. But none of the methods named could take the place of Thiersch's in covering a large surface.

CANADIAN MEDICAL ASSOCIATION.

Twenty-Third Annual Meeting, held in the Normal School, Toronto, September 9, 10, and 11, 1890.

JAMES ROSS, M.D., PRESIDENT-ELECT, IN THE CHAIR.

(Special Report by our Canadian Correspondent.)

The President's Address.—He first gave an interesting sketch of the history of the Association since its organization at Quebec, in 1866, and referred to the great progress of medicine since that date. Commenting on the work accomplished by the Association during those years, he paid suitable tribute to those members of the profession by whose enthusiastic labors the Association has been so ably supported. He then briefly reviewed the history of medicine, noting many of the advances which have been made in medical science, and discussed at length many of the questions connected with the profession at the present time. He referred to the great necessity there was for urging the establishment of a uniformity of licenses in the different Provinces of the Dominion of Canada. It was, he felt, a curious fact, that medical men in one Province were not legally qualified to practise their profession in another Province, without first passing the examination prescribed by that Provincial Board. When uniformity in medical licenses was secured between the different Provinces of the Dominion, there might then be some reasonable hope of securing reciprocity in medical registration with Great Britain.

HON. GEO. W. ROSS, Minister of Education for the Province of Ontario, delivered a brief address of welcome. He spoke, in complimentary terms, of the reciprocity of good feeling displayed by the members, and said he had no doubt that, as the President had suggested, it was highly desirable that there should be a uniformity of medical licenses throughout the Dominion, and his influence would be exerted to promote such legislation. After expressing his pleasure in seeing some visitors present from the United States, he concluded by wishing the Association continued prosperity in its work, so that those who have to be the subjects for the doctors' skill will fall under experter hands, and so be enabled to live longer and do good to their fellow-men.

The Address in Medicine was delivered by DR. PREVOST, of Ottawa. The recent advances made in medical science were, he said, probably more marked in bacteriology than in any other department, and by these advances we were now enabled, with no small degree of satisfaction, to study pathogeny, the origin of disease. It is now established that infection is due to the agency of living organisms. Instances were cited of the benefit derived from our knowledge of the germ theory in the study of typhoid, diphtheria, tuberculosis, leprosy, etc. A revolution had thus, in a few years, taken place in the medical world, and in the future much yet remained to be accomplished in discovering the exact agents capable of destroying particular germs. To render the soil inert, brought us to the study of the hygienic surroundings of the patient, and opened a field worthy of the most careful consideration.

MEDICAL SECTION.

Cardiac Complications of Gonorrhœal Rheumatism.—Dr. L. R. MacDonnell, of Montreal, presented a brief *résumé* of the medical literature of the subject, and read notes of twenty-seven cases coming under his observation, in six of which cardiac physical signs were present. In some of these cases there had, however, been a history of scarlet fever or acute rheumatism. Two of the patients had gonorrhœal rheumatism, with distinct heart murmurs, when admitted to the hospital.

Dr. Nesbitt, of Toronto, read a paper on "Pharmacology of Salicylamide."

Spinal Syphilis.—Dr. F. G. Finley, of Montreal, presented a paper on this subject. After referring to the various forms which syphilis may assume in the spinal cord, he related the history of two cases which had recently come under his observation. The symptoms in one case pointed to what was probably a gumma pressing upon the cord, and with the administration of mercury there was rapid improvement. The other case was, he concluded, of the nature of myelitis, and had, as far as he could observe, yielded but slightly to treatment.

Hydatid Tumors.—Dr. H. H. Chown, of Winnipeg, after referring to the origin and formation of these growths from the larval stage to their development in the form of tumors, found sometimes in the liver, peritoneum, brain, lungs, or in the muscles, described the further development of the cyst and its contents. The heads of tænia echinococcus are found, in the various stages of development, and were often sufficiently numerous to render turbid the usually clear fluid contents. These growths gave rise to a variety of symptoms, varying according to the position and size of the tumor. For example, if in the liver we have jaundice, ascites, anasarca, œdema, varicose veins, or paroxysmal pains; if in the lungs, cough, dyspnœa, or hæmoptysis; if in the abdomen, vomiting is a prominent symptom, with pain after each meal. Change was continually going on in these cysts, and either calcareous degeneration, absorption of fluid, or suppuration might occur. Cases are reported where rupture took place into the intestine, the bronchi, bladder, uterus, and into the peritoneal cavity. An exploratory operation was the only means by which a positively correct diagnosis could be made. Microscopical examination of the fluid aided in distinguishing the contents from urine and other fluids. Dr. Chown concluded his interesting paper by describing the different methods of treatment. These were: 1, Electrolysis; 2, puncture and drainage; 3, incision; and 4, excision. The second method was the one most commonly employed, and by it, the contents being expelled, the cyst collapses and absorption is rapidly set up. Success generally followed this method of treatment, which was particularly adapted to tumors of moderate size, and in some of those tumors in the liver, lungs, or spleen. Incision is performed when the tumor is within the peritoneum, with the precautions always observed in such operations. Enucleation became necessary in some cases. The paper concluded with an interesting history of the case of a man, thirty years of age, from whom sixteen separate cysts had been removed from different portions of the abdominal cavity.

The Temperature of the Puerperal Patient was the title of a paper by Dr. Cameron, of Montreal. Careful observation has established the fact that the temperature of the patient is normal at the commencement of labor, and that it rises during the progress of labor, the increase being more marked in primiparæ than in multiparæ. The temperature in every case varies according to the severity and length of the labor. During the first twelve hours after labor there is a rise, and during the next twelve hours there is a fall of temperature. When births occur from 5 A.M. to 2 P.M. the highest temperature is reached; in births from 2 to 6 P.M. the temperature does not rise so high, and in births from 6 P.M. to 4 A.M. the rise is very slight. Thus we note that in births during the night there is little or no rise, and in births during the day the rise is marked. These variations are within the normal range; the proportion of non-febrile cases in midwifery should be about eighty per cent.

Materia Medica.—Dr. W. S. Muir, of Truro, N. S., read the address on this subject. After referring to the importance of the subject, and the importance of medical men being thoroughly acquainted with all the adulterations of drugs, he briefly reviewed the work recently done in the investigation of the action of certain drugs, especially in the groups of antipyretics and heart tonics. He then made reference to some of the newer drugs—exalgine, ural, thyol, ichthyol, thyol-resorcin, and chloralamin. In conclusion he briefly discussed the anæsthetics chloroform, ether, and cocaine, expressing his preference for chloroform as a general anæsthetic, and pointing out some of the serious results that had followed the careless use of cocaine.

Pernicious Anæmia.—Dr. A. McPhedran, of Toronto, presented records of five interesting cases in which there was irregular elevation of temperature; pallor, with the "lemon tint," but without emaciation; high-colored urine of low specific gravity, with the characteristic blood-changes, and gastro-intestinal disturbances. In one case the blood contained 745,000 red corpuscles per cubic millimetre, instead of the normal 5,000.000, the characters of the corpuscles being those typical of the disease. This excessive blood destruction, commencing in the portal system and due to some poison absorbed from the intestinal tract, in which there is probably greatly increased putrefaction going on, was the great characteristic of the disease. In the treatment of these cases he urged the importance of keeping the bowels, as far as possible, clear of decomposing matter, and believed, in addition to an occasional mild calomel purge, the use of an intestinal disinfectant, such as beta naphthol, five grains; or thymol, three grains, three or four times a day, would prove beneficial. In the list of medicines arsenic stands at the head, and should be given in small doses, say one-fortieth of a grain, every two or three hours after food. If not well borne, smaller doses, even a half drop of Fowler's solution, should be tried every hour. The benefit of arsenic was probably by its action on the blood, rendering the hæmoglobin more difficult of being dissolved out of the corpuscles. When, after persevering in its use, it fails, iron should be tried. The diet should be highly nutritious, and consist of iron-bearing foods, as yolk of egg, milk, meat, cereals of all kinds. It was advisable to treat all grave persistent anæmias with arsenic, and by so doing we might possibly prevent some cases of pernicious anæmia.

SURGICAL SECTION.

Peri-urethral Cellulitis.—Sir James Grant, of Ottawa, read a paper on this subject. After pointing out the importance of recognizing the two distinct forms in which this disease is met with, one in isolated patches of small size about the penile portion of the urethra, and the other forming a continuous mass between the layers of the triangular ligament, behind the bulb, he read notes of a case coming under his observation. The patient, a man, aged forty, suffered from extravasation of urine in 1879; he had had a stricture for some years, the sequel to a gonorrhœa. The symptoms becoming urgent, free incisions were made in the perineum, and linseed poultices applied, with great relief to the patient. It was found impossible to pass a catheter. A large portion of the integument of the scrotum sloughed. An opening, three-quarters of an inch in length, into the membranous portion of the urethra, was the result, and urine flowed freely through the perineal fistula. The system was well supported by liberal diet and tonics. The sloughs gradually separated and were replaced by granulation tissue.

The question was, how best to close the fistulous opening? The poultices were continued, the granulation tissue was sufficient to cover the opening and hide it from view. A No. 7 elastic catheter was passed into the urethra, entered slowly through the pouting granulations, and almost unexpectedly reached the bladder, the flow of urine being quite free; it was retained *in situ* and no urine escaped through the fistulous opening. The surface of the granulations was brushed over several times with a weak solution of nitrate of silver. At the end of the third day the catheter was removed, and the urine subsequently flowed only through the natural channel. Healing rapidly occurred in the perineum, and in three months the patient resumed his work. The case served to demonstrate the marvellous reparative power of granulation tissue, even under the most adverse circumstances.

DR. J. F. W. ROSS then read a paper entitled "The Failure of the Removal of the Ovaries and Tubes to Relieve Symptoms."

Cholecystotomy.—Following this, DR. F. SHEPHERD, of Montreal, read a paper on "Cholecystotomy." He first gave an interesting sketch of the history of the operation and the difficulties attending it, especially when the gall-bladder was small and shrunken or altered by inflammatory action. The history of a case followed. The patient, a lady, aged fifty-one, had been suffering from pain in the epigastrium and other dyspeptic symptoms for a year, and during that time had lost flesh. After a severe attack of pain in the abdomen, with incessant vomiting, her medical attendant noticed a tumor, about the size of a fœtal head, to the right and a little below the umbilicus, and overlapping the median line. It was freely movable, dull on percussion, very tender, smooth on the surface, but deeper down hard and irregular. There was no history of jaundice or hepatic colic. The growth was considered to be malignant, and probably connected with the bowel. An exploratory incision was determined upon. On coming down to the mass it was found to be an elongated portion of liver, and beneath this was a large, hard mass, covered over by omentum and intestine, and looking like a new growth. In separating this elongated portion of tissue from the mass there was some hemorrhage and an escape of dark-colored fluid. On introducing his finger he felt what proved to be a large gall-stone, and beyond this another, which was extracted with difficulty. The edges of the cavity, which had contained the gall-stones, were so friable that they could not be brought to the abdominal walls, and it was not without some difficulty that a drainage-tube was satisfactorily adjusted and the abdominal wound closed. The patient made an excellent recovery, without any elevation of temperature or increase of pulse. Bile flowed freely from the wound for some days. The tube was removed on the fifth day, and bile ceased to flow on the fifteenth day after the operation. The patient was out, driving, at the end of the second week, and has since been perfectly well. The difficulties in diagnosis of the case, even after the abdomen was opened, were alluded to, and the case was cited as an example of the advantage of exploratory incision in doubtful and even apparently hopeless cases.

Why Apostoli's Method sometimes Fails.—DR. LAPTHORN SMITH, of Montreal, after describing the proper way of carrying out the treatment scientifically and efficiently, commented on the causes of failure, the principal one of which was, he thought, the failure to properly apply the positive electrode to the whole uterine surface. To accomplish this he recommended the use of a flexible bougie, and through the use of this he reached every portion of the uterine surface. He related two instances where he had failed on account of the curves in the uterine cavity, but by the use of this elastic bougie every portion of the bleeding surface might be properly brought under the influence of the electrode.

DR. HOLFORD WALKER, of Toronto, read a paper on the same subject, and concluded by expressing his approval of the flexible bougie referred to by Dr. Smith.

Lateral Curvature of the Spine.—DR. B. E. MACKENZIE, of Toronto, presented a case. The patient, a boy, aged five years, had been under treatment for six weeks, and had a marked dorsal curve to the left, with rotation and lumbar curve to the right. The treatment has been mainly directed to develop such muscles as make greatest correction of the deformity. By this means the patient has been enabled, at the present time, by an effort, to straighten the spine, and can hold himself so as to measure three-fourths of an inch more in height than he did six weeks ago. This treatment requires the hearty co-operation of the patient. It is necessary to insist that the best possible attitude be assumed and maintained throughout, and that corrections be made constantly by the surgeon and by the patient when standing before a large mirror. By this means the senses of the patient must be carefully and patiently re-educated. In this case a girdle was employed, secured to a hook, and passing over part of the ribs on the left, made prominent by spinal rotation in the dorsal region. While the patient throws his weight upon the girdle, it is seen that he can over-correct the dorsal curve. At the same time strong pressure is made with the surgeon's hands to press inward and forward the prominent angles of the ribs behind, and inward and backward the part of the ribs of the right side opposite, thus correcting the rotation. During the night the patient uses the usual cradle adopted for such cases. Dr. Mackenzie stated that such treatment was much more satisfactory than by any form of jacket, which caused atrophy of the muscles intended by nature to hold the spine erect, and also greatly restrained the movements of the body. To be successful in this form of treatment it is highly necessary, 1, to give unremitting personal attention to the case for several months; 2, to have the hearty co-operation of the patient—not only the assent, but the positive, determined will; 3, to observe the patient in various attitudes, and to study the effect of the various exercises, so as to strengthen those groups of muscles which are most effective in retaining the best attitude that can be assumed; 4, to combine intelligently the use of a moulding power upon the deformity, such as by the hands of the surgeon, or by Barwell's girdle.

DR. H. S. BIRKETT, of Montreal, presented "Notes of a Case of Hemiatrophy of the Tongue," and a paper on "A Method of Preserving Microscopical Specimens of the Eye."

DR. A. PROUDFOOT, of Montreal, presented "Notes on a Severe Case of Epilepsy cured by Enucleation of an Eye containing Ossific Deposits."

DR. H. R. ELLIOTT, of Brucefield, read "A History of a highly Interesting Case of Molluscum Fibrosum," and exhibited the patient, who gave evidence of having all the well-marked symptoms of the disease.

Election of Officers.—The following were unanimously elected for the coming year: *President*, Dr. T. G. Roddick, of Montreal; *General Secretary*, Dr. Birkett, of Montreal; *Treasurer*, Dr. W. H. B. Aikens, of Toronto. *Vice-Presidents:* Ontario, Dr. A. H. Wright, of Toronto; Quebec, Dr. S. P. Lachapell, of Montreal; New Brunswick, Dr. S. H. Coburn, of Fredericton; Nova Scotia, Dr. John Stewart, of Pictou; Manitoba, Dr. D. Young, of Selkirk; British Columbia, Dr. E. A. Prayer, of Nanaimo; Prince Edward Island, Dr. Taylor, of Charlottetown; Northwest Territories, Dr. E. A. Kennedy, of Fort McLeod. *Local Secretaries:* Ontario, Dr. Prevost, of Ottawa; Quebec, Dr. P. Robertson, of St. Andrews; New Brunswick, Dr. Bruce, of St. John; Nova Scotia, Dr. A. Morrow, of Halifax; Manitoba, Dr. Milroy, of Portage la Prairie; British Columbia, Dr. Fagan, of New Westminster; Prince Edward Island, Dr. Mackay, of Summerside; Northwest Territories, Dr. Oliver, of Medicine Hat.

Dr. Dillon Brown has been appointed Instructor in Intubation of the Larynx at the New York Polyclinic.

AMERICAN RHINOLOGICAL ASSOCIATION.

Eighth Annual Meeting, Held in Louisville, Ky., October 6, 7, and 8, 1890.

FIRST DAY, MONDAY, OCTOBER 6TH.

Annual Address. — The Association convened at the Galt House, and was called to order by the President, DR. ARTHUR B. HOBBS, of Atlanta, Ga., at 3 P. M., who then delivered the annual address. He said the Association had met to exchange views, to profit by each other's experience and observations, and, not least, to enjoy that social intercourse which fosters a more mutual friendship. This interchange of views raises physicians out of the ruts that they are all liable to fall into during the year of busy practice, and when they return to their consultation-rooms, they will find themselves making additions to their armamentarium. Conservatism should not be too rigidly adhered to in the advancement of science. Mind cannot rub against mind, and experience against experience, without evolving or bringing to light some spark of truth. In order that one may be a successful specialist in any branch it is necessary that he should have had some experience in general practice, and that presupposes that he has studied all the branches; in other words, that his house has been well built in all of its parts before the cupola—his specialty—could have a firm basis. The other parts should not be wholly neglected, because it is through them that the cupola has been reached, and by them it must be supported.

The Relation of Naso-pharyngeal Disease to Catarrh of the Middle Ear.—DR. EMMETT WELSH, of Grand Rapids, Mich., contributed a paper on this subject. He said the relationship existing between naso-pharyngeal disease and catarrh of the middle ear was intimate and inseparable. The ear depended upon a healthy condition of the nares and naso-pharynx for the healthy performance of its function. Patients presenting themselves for the treatment of ear diseases, always give the story of catarrh, located in the nose and throat, and date their primary impairment to this condition; therefore it becomes essential to not only become familiar with the speculum, the rhinoscopic mirror, the catheter, Politzer bag, etc., but also to detect the diseases of the nares and naso-pharynx, its inflammations, obstructive lesions, and measures for their removal.

The existence of a spur upon the septum may be the means of exciting a tinnitus aurium, and how useless direct medication to the ear would be without its removal. It would be erroneous for the rhinologist to ignore the large number of aural complications he meets with in daily practice. This is very apparent, indeed, when we consider that the larger proportion of abnormal changes that take place in the ear, result from those diseases of the naso-pharynx which produce narrowing or obstruction of the Eustachian tube.

Repeated attacks of subacute otitis media can be found in cases directly referable to some mechanical obstruction or inflammatory condition of the naso-pharynx. Its relief is dependent upon this causation, and its treatment plain; yet how often do we find that this is not detected, and the uselessness of direct medication to the ear is patent.

This is best illustrated in cases of children, who, suffering from recurrent attacks of otitis media, are presented for examination and treatment; when on inspection, the membrana tympani is found inflamed, the child suffering from difficulty in breathing, and mouth breathing predominating, the nares inflamed, and an adenomatous growth existing at the vault of the pharynx.

All treatment with a view to correcting the inflammation of the ear is useless, and the only plan is medication of the nares and the naso-pharynx.

Tonsillar Hypertrophy, its Influence on Nasal and Aural Inflammation, with Treatment.—DR. T. H. STUCKY, of Louisville, Ky., read a paper on the above subject. He said of all the diseases of the upper air-passages, he knew of none more conducive to the production of serious after-effects than tonsillar hypertrophy.

As to the etiology, very little is found in current literature. The exanthemata, diphtheria, and frequent attacks of pharyngitis seem to be etiological factors. Sex is not without some influence in producing the affection, for out of one thousand cases recorded by McKenzie, 670 were males, and 327 females. Some cases follow acute attacks of quinsy, hereditary or acquired syphilis, granular pharynx, etc. As a rule, after the age of thirty years, spontaneous cure takes place, it being the natural course of the gland to atrophy after this age.

It is immaterial whether the hypertrophy be due to the engorgement of the crypts or lacunæ due to either an active or passive hyperæmia, or to a true inflammatory hyperplasia, the indications for treatment are cogent. The treatment of the conditions will be variable. Where there is a simple hypertrophy due to an acute catarrhal inflammation, the topical applications of the mild astringents have proven to the author of little benefit.

The rheumatic character of acute tonsillitis or hypertrophy is accepted by a large number of the profession. Salicylate of soda at the commencement of the attack, in ten-grain doses, to an adult, every hour or two until one drachm has been taken, will abort many attacks. On account of the decided nausea produced to many by this drug, Dr. Stucky has used the effervescent salicylate of lithia with equally satisfactory results, with no nausea. For simple acute hypertrophies, the treatment is constitutional and locally astringent. When the tonsils are soft, the galvano-cautery is very effective, a few deep cauterizations being made twice a week. The author has introduced the galvanic needle its full length into the tonsils, at several different points, about one-eighth of an inch distant one from the other, which has proven equally, if not more, efficient than the method mentioned, causing less pain at the time of the operation, and not so much uneasiness afterward in deglutition. The galvano-cautery snare, where there is a history of a hemorrhagic diathesis, is a great addition to the armamentarium of the rhinologist. Dr. Morell Mackenzie recommends the use of London paste, applied once or twice a week, according to circumstances, over various parts of the organ. This method Dr. Stucky considers slow and painful. Where the organ is fibrous, dense, and hard, tonsillectomy should be resorted to. While the danger from hemorrhage is reduced to a minimum, the time, suffering, delays, and inconvenience which are overcome by ablation render it, in his judgment, the operation for speedy relief, and should always be performed where the hypertrophy is dense in character. The tanno-gallic gargle of Mackenzie is an excellent after-treatment for the bleeding. The cold wire snare is painful, slow, and will eventually be superseded by the galvano-cautery. The simpler the after-local treatment is, the better and more speedy the results. The cause being removed, the use of a cleansing spray of melted vaseline, with an astringent, stimulant, or sedative, as required, will rapidly give relief. If the uvula and soft palate remain relaxed after tonsillectomy and the use of the astringents, amputate the uvula. The ear symptoms, if acute, generally subside rapidly. After removal, special attention is called to the condition of the nasal passages. If hypertrophies of a chronic character exist over any of the turbinated processes, remove them by cautery, or other means. The simple distention of the Eustachian tube, by the method of Politzer or Valsalva, will oftentimes relieve the patient by a few treatments. These methods should never be used unless the nasal passages as well as the vault of the pharynx have been thoroughly cleansed. If there is no marked change in the tympanum, the method of Delstauch (massage) will prove of service. Of all the methods named, tonsillectomy or ablation, and the galvano cautery, in the author's opinion, are the best.

SECOND DAY, TUESDAY, OCTOBER 7TH.—MORNING SESSION.

The Association was called to order by the President at 10 A.M.

Nasal Cauteries.—DR. E. R. LEWIS, of Indianapolis, Ind., read a paper on this subject. He said London paste or Vienna paste, or caustic paste in any form, he never uses in the treatment of nasal hypertrophies. He has patients under his care who wish that it had never been used on them, and yet it was used by specialists competent to make the best use of it. In the treatment of posterior hypertrophies by means of a guarded porte-caustique, chromic acid can be easily and safely used, and the results be satisfactory in many cases. The general practitioner who is not provided with the apparatus of a specialist, and yet is called upon to treat nasal hypertrophies, will do well to use chromic acid in preference to any other caustic. Nitrate of silver is to be condemned in nasal treatment. In Dr. Lewis' practice the galvano-cautery has taken the place of all other nasal cauteries. It is not a case of prejudice, but a clear case of the survival of the fittest. The galvano-cautery does its work neatly, aseptically, and, when properly used, painlessly and bloodlessly. For all nasal operations, except the removal of large growths by the loop, a small storage battery is the most useful and the most convenient. The small storage-battery he has in his office is kept constantly charged from four cells placed in the cellar beneath. It can be easily detached and taken out of the office and used for days without being recharged. For the loop a larger or double battery is necessary, but even in that case the battery can easily be carried in the hand. He highly recommended the galvano-cautery, and coupled his recommendation with the following cautions:

"1. Adopt preliminary treatment, even if there is not much congestion or hyperæmia. I request, and in some cases demand, to have the patient under my treatment two weeks at least before cauterizing, and in many cases I wish a longer time. The results are always more satisfactory after such preliminary treatment, and the work to be done by the cautery can be better gauged.

"2. Cauterize in the anterior portion first, and use the edge of the knife—not the flat surface—sinking it in as far as seems necessary and drawing it forward. It seems best to keep the knife moving; if stationary for a while it is apt to stick to the tissue. I usually apply the edge of the knife to the inside, pressing it outward and drawing it forward; then, if necessary, the edge to the lower part, pressing it upward and drawing it forward. One electrode may be used for both operations where one is skilled in it, or two electrodes may be used, one horizontal when introduced, and the other perpendicular.

"3. Spray the parts well, but gently, with soothing sprays after the cauterization. I use oil of vaseline with a little eucalyptol in it, then a warmed Seiler's solution, and finally, oil of vaseline again medicated as before. The medicated oil is varied in different cases. Sometimes I use oil medicated with iodol.

"4. Never cauterize on both sides at one sitting. I make no exception to this rule in my own practice.

"5. Introduce the electrode while cold, apply it to the posterior part of the hypertrophy to be cauterized, then press the knob to heat the electrode and begin to draw it forward. The maximum heat has been determined before by the regulation of the rheostat. I prefer a bright red turning to white, and obtain the best results from such heat. In this respect I confess that I do not agree with or understand Lennox Browne (3d edition, 1890, p. 141), unless he refers to the heat required in ear and throat and elsewhere. A black heat I never use; a dull-red heat is apt to make the knife stick; a bright-red heat, even if inclining to white, is, to me, the best. It must be remembered that the electrode is cooled considerably by the secretions and by the body when made to enter it. The thumb should be withdrawn from the knob before withdrawing the electrode, so that it may be withdrawn cold.

"6. The parts should be treated gently and soothingly for several days after cauterization, the secretions being removed and the nares cleansed with as little irritation as possible. If the other side is to be cauterized, a week should be allowed to intervene, if possible, before doing it. I recommend that the anterior part of the hypertrophy be cauterized first. If the hypertrophy is so large that it requires it, the next operation may be begun further back, and so till all is removed at several sittings. Sometimes, after a satisfactory cauterization of the anterior part, the posterior part can be easily removed with the snare, where it would have been very difficult to use the snare on the entire hypertrophy.

"I apply the cocaine by means of cotton on a probe, using a fresh ten per cent. solution. The cotton is gently applied to the anterior part, held in position a few seconds, then gently and slowly pushed back. Care is taken to have the sides and lower part of the hypertrophy well moistened by the solution, although the cotton must not be so saturated that the solution will run into the throat, or drop on the floor of the nares. In a few moments the parts are ready for the cautery. There is absolutely no pain; rarely is there a drop of blood; the after-pain in the great majority of cases is *nil*.

"In a few cases there is slight nausea felt at the close of the application of the cocaine or during or after the use of the cautery. In such cases a little wine or brandy is given, and the disagreeable feeling passes off."

Nasal and Pharyngeal Manifestations of Syphilis; Results and Treatment.—DR. J. G. CARPENTER, of Stanford, Ky., read a paper on this subject. He said primary syphilis, including the period of inoculation, development of the chancre, and infection of the adjacent glands, is found infrequently in the nasal and pharyngeal chambers, though more frequently in the mouth and upon the lips; consequently the secondary form of syphilis and its sequelæ concern the rhinologist more than any other variety. The presence of the initial lesions of syphilis in the nasal or pharyngeal chambers causes swelling of the mucous lining, pain, fever, infection of adjacent glands, and in the nasal chambers difficult nasal respiration.

Syphilitic rhinitis may occur as the result of heredity; the local lesions of secondary syphilis found in the upper air-passages may begin as a catarrhal inflammation—rhinitis or pharyngitis, a local circumscribed erythema, a papular, pustular, or tubercular deposit. The epithelium of the mucous membrane becomes rapidly softened, disintegrated, and abraded, leaving one or several erosions, becoming quite painful, sensitive, and at first bathed in a mucous secretion, which soon becomes muco-purulent or purulent as the ulcers enlarge and disintegrate.

In the treatment of syphilis of the nose and throat it is very important to arrest and cure the disease in the shortest period possible, to prevent destruction of tissue and deformity following syphilitic ulceration of the soft tissues of the nose, palate, pharynx, and larynx, such as dysphagia and faulty voice. The anterior or posterior nares, or Eustachian orifices, may be occluded by adhesions so as to interfere with their function.

The best remedy for the treatment and cure of syphilis is mercury; it produces fatty metamorphosis. The continuous use of mercury in small tonic doses, from one to three years, short of producing tenderness of the gums and slight ptyalism or relaxation of the bowels, is the most appropriate treatment for the permanent cure and eradication of the disease from the system. The proto-iodide, the bichloride, and biniodide of mercury stand at the head of mercurial preparations. External applications to the groins, armpits, inside of the thighs, two or three times daily, are adjuvants of the greatest importance in the treatment of syphilis.

The local treatment of syphilitic lesions of the naso-pharynx and larynx consists in mild antiseptic and aseptic, soothing, cleansing applications, to disinfect, soften, de-

tach, and wash away the morbid secretions and crusts which vitiate the respired air and act as foreign material, causing constant irritation, and the use of such other medicaments as will arrest and restore the affected parts to a normal state, in the shortest period, in conjunction with constitutional measures.

For the treatment of the sequelæ of syphilis, caries and necrosis of bone and cartilage of the contiguous bones of the naso-pharynx and larynx, the same surgical rules hold good as in other localities, viz., to remove the dead bone, prevent further disintegration, and render the wound aseptic

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AFTERNOON SESSION.

Nasal Hypertrophies.—DR. JOHN NORTH, of Toledo, O., contributed a paper on this subject, in which he said the framework of the nasal fossæ consists of hard, unyielding bone. These bony fossæ are lined with mucous membrane. The abnormal thickening and growth of the mucous membrane of the nasal fossæ is spoken of as nasal hypertrophy. The thickening and growth of this membrane naturally diminishes the normal lumen of the nasal passages, interfering with the free nasal respirations, proper resonance of the voice, and of the functions of the nasal passages, in addition to the reflex contiguous troubles that rhino-laryngologists are called upon to consider and investigate.

The term nasal hypertrophy is frequently applied to all conditions of the nasal mucous membrane in which there is a thickened condition of the membrane and a narrowing of the lumen of the nasal cavities, not dependent upon anatomical abnormalities or tumors.

Dr. North divided them into, 1, chronic hyperæmia; 2, simple hypertrophy; 3, hypertrophy with hyperplasia; 4, hyperplasia; and 5, neoplasia.

1. *Chronic hyperæmia.*—In this condition we have a superabundant supply of blood to the parts, dependent upon some derangement, a paresis, of the vaso-motor nervous system. There is no doubt of the existence of nerves, distributed to the muscular coats of the blood-vessels, which are capable of regulating their calibre and the quantity of blood sent to the different parts. It has been shown, by experiments upon living animals, that local variations in the circulation, independent of the action of the heart, actually take place, and that they are of great importance in their special functions.

2. *Simple hypertrophy* is due to hypernutrition. There is no increase in the relative number of tissue-elements. There is simply over-nutrition and consequent over-growth of existing elements, dependent upon increased supply of nutrient pabulum.

3. *Hypertrophy with hyperplasia* may be due to hypernutrition from hyperæmia, or congestion and inflammation produced by various causes.

4. *Hyperplasia* is caused from hypernutrition, congestion, and inflammation. In nasal hyperplasia there is no growth of the tissue-elements. The increase in the thickness of the membrane occurs from simple hyperplasia, or the organization of the products of inflammation thrown out from the vessels in the stage of congestion and exudation. Atrophy usually follows hyperplasia of nasal mucous membrane. Hyperplasia is sometimes called pseudo-hypertrophy.

5. *Nepolasia* is a new-growth appearing upon the turbinated processes, usually well back; the surfaces are rough and irregular, and are not hypertrophies nor hyperplasias, but are separate and distinct growths.

The methods used to restore the lumen of the nose should be such as are required for the general and local condition. In the case of true hypertrophy, all that can be done by medicated vaseline used with the spray is to cleanse the membrane and protect it from further irritation, and allow nature to relieve the case. Prompt and permanent relief can be obtained by the removal of a small portion of the excessive growth. In these cases Dr. North prefers the chromic anhydride (chromic acid), because it can be applied to a small portion of the membrane; it is circumscribed in its action, and the cicatricial tissue that it produces continues to shrink for a considerable time. He finds the membrane in a better condition several months after the operation than it was at first. A spray of medicated vaseline should be continued during the entire treatment.

In cases of hyperplasia, the local application of iodomized vaseline is of the greatest importance. Neoplastic growths are easily removed by the snare, chromic anhydride, or electro-cautery. Constitutional treatment should never be neglected in any case.

Administration of Morphine by the Nostrils.—DR. CARL H. VON KLEIN, of Dayton, O., read a paper on this subject. He said, in the administration of morphine by the mouth there is generally, besides an unprecipitate taste, a great deal of hacking and spitting, in many instances to such an extent that it produces an irritation of the throat, especially of the soft palate. In persons not accustomed to its use it produces nausea and vomiting. Billroth reports the case of a lady—who took ½ grain in which he saw such anxiety, nausea, and vomiting that, although suffering intense pain, the patient refused to take the remedy again. Dr. von Klein has administered morphine through the mucous membrane of the nose in over one hundred cases, with very satisfactory results. The manner of administering morphine through the olfactory canal is simply by snuffing it up the nasal chambers in the same manner as snuff tobacco is used. The dose is divided into two equal parts, each part being placed upon the end of the thumb and snuffed up into the nostrils. He has found this mode of administering it the most reliable, as it is tasteless, and the drug is more prompt in its action than when administered either by the mouth or hypodermically.

Nasal Reflexes.—DR. A. B. THRASHER, of Cincinnati, O., in a paper on this subject, said that the multiplicity of symptoms attributed by the modern rhinologist to nasal reflexes has caused not a little opprobrium to fall to the lot of the specialist.

Among the affections attributable to intranasal lesions are: Asthma, hay fever, cough, spasm of glottis, gastralgia, dyspepsia, tumefaction and redness of skin of nose, œdema of conjunctiva, conjunctivitis, photophobia, epiphora, asthenopia, glaucoma, scotoma, salivation, cardiac palpitation, disorders of smell, taste, hearing, and sight, huskiness of voice and aphonia, exophthalmic goitre, rheumatic pains, vertigo, chorea, epilepsy, melancholia, agoraphobia, aprosexia, neurasthenia, migraine, cephalalgia, neuralgias, nocturnal eneuresis, many uterine disorders, affections of the genito-urinary mucous membrane, etc.

Many of the affections are not true reflexes, but are caused by blood-pressure or by extension of inflammation, by continuity of tissue, or in some other way not reflex. The specialist should carefully examine the nose, but he should also be a general physician and search the entire system for the obscure *causa morbi*.

Dr. Thrasher reported two cases of reflex salivation, due to intranasal disease. He thought that the cause of the nasal reflex was twofold. Primarily, a diseased condition of the respiratory tract of the nose; secondarily, an abnormal irritability of the central nervous ganglia. This affection of the central nervous system might be caused by repeated irritation of the intranasal tissues; or it might be due to some extranasal irritation. It was more apt to be manifest in individuals of a nervous dyscrasia. The condition of vaso-motor paresis, very different from active inflammation, is generally present, although it may be masked by acute inflammation. The immediate exciting cause of the reflex may be a mechanical, chemical, or thermal irritant.

There is at times some difficulty in making the diagnosis, as the severity of the reflex is not in proportion to the amount of nasal disease. Neither does it follow that

when one of the above symptoms is present, along with well-marked intranasal disease, that the latter is due to the former. Sometimes the local application of cocaine will abolish the reflex; or, again, it may be excited by the irritation of a nasal probe, but the means are not always to be relied on. As a rule, constitutional as well as local treatment must be instituted. In these reflex disturbances it becomes apparent that the specialist should be broad in his ideas, not viewing the whole world through his nasal speculum, or not expecting to see the cause of all bodily ailments reflected in his rhinoscope.

THIRD DAY, WEDNESDAY, OCTOBER 8TH.

Dr. R. S. Knode, of Omaha, Neb., contributed a paper on "What Shall be our Excipients in Nasal Sprays?" which elicited a spirited discussion.

The subject of "Hay Asthma" came up for general discussion and was opened by Dr. A. De Vilbiss, of Toledo, O.

Officers for 1891. — *President*, Dr. R. S. Knode, of Omaha, Neb.; *First Vice-President*, Dr. T. H. Stucky, of Louisville, Ky.; *Second Vice-President*, Dr. C. F. McGahan, of Chattanooga, Tenn.; *Secretary and Treasurer*, Dr. E. R. Lewis, of Indianapolis, Ind.

The next annual meeting will be held at Indianapolis, Ind., in 1891.

Correspondence.

HYDROPHOBIC EPIDEMIC NO MYTH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Since there is a manifest disposition in some quarters to underrate and make light of the prevailing epidemic of hydrophobia, and to throw doubt on the existence, even, of such a disease, it is deemed proper to record the following four cases, resulting in death, which have occurred therefrom in Central Missouri during the last nine months, and to submit some general thoughts bearing on the subject. And more especially does this appear necessary because the doubt has found expression in these words: "And where are the cases of hydrophobia, dead or dying, throughout the land?" Now, while four cases do not make an epidemic, no more than one swallow ushers in spring, still, when considered in connection with the wide-spread manifestation of the disease under its true name—rabies canina—it points in that direction, and is calculated to give much solicitude to persons residing in communities where so many animals are affected, even unto death, despite all the precautions which have been taken. Speaking according to the facts, the epidemic applies especially to the lower animals—the dog, cat, horse, cow, hog—and does not strictly include humans; yet many persons are bitten, and every once and awhile one succumbs to the inevitable; besides, the peace, happiness, and lives of the whole community are continually jeopardized by contact with this state of reigning terror, which would be infinitely worse were it not for the great amount of caution observed. These four deaths from hydrophobia occurred within fifty miles of this locality, and there may possibly have been others not heard from.

Two of the cases are recorded from written statements given by the doctors in attendance, and the other two on the declaration of reliable eye-witnesses, besides detailed accounts published at the time in the immediate vicinity.

The first case was that of Manny McMillan, of Marshall, County of Saline, twenty miles from this city. He was twenty years of age, and was bitten through the lip by a dog belonging to Dr. McClory, on October 17, 1889. He was seen in ten minutes after by the doctor, when the wound was cauterized by carbolic acid slightly diluted, and otherwise properly dressed. The doctor states that, five days after, the wound looked well, and gave no trouble except a slight pain in the side of the face.

October 30th he had a chill, went to bed, and attempted to drink some water, which threw him into spasms. These continuing more or less frequently, he became wilder and weaker till death released him on the evening of November 1st following. Dying such a horrible death, in the first blush of young manhood, from one of the seemingly needless causes of death, greatly excited the community in which he resided and was much respected. The dog disappeared from his home the same day and was seen no more. Before leaving, however, he bit a great many dogs in the town. These were all killed immediately. The dog showed all the early symptoms of rabies, but as it was the first case they were not recognized at the time, and were only called to mind after he had bitten the young man and gone on his raging tramp, doubtless to his death. McMillan was frequently at the dog's home, and was in the habit of playing with him; in fact, had just left and gone into the street when the dog jumped the fence and snapped him as he passed. This patient was exposed to damp, cold weather after having been bitten; and this, in connection with the fact that the wound was on the face, where the capillary circulation is very active, may account possibly for the short stage of incubation. Next in order of time is the case of Walter Nicholson, of Lincoln, Benton County, a man fifty years of age, and of influence in his vicinity. On November 10, 1889, while in the street, he was bitten on the finger by a stray dog, which soon gave proof that he was laboring under an attack of rabies. The dog was killed, also other dogs that had been bitten by him. Mr. Nicholson went to a city not very distant on the hunt of a madstone and other relief, all to no purpose, for on Christmas-day following he was attacked with spasms and other symptoms characteristic of hydrophobia, and died a most painful and horrifying death in forty-eight hours. It took six men to hold him in bed. While in his rational moments he requested that everything in the house used by him during his illness should be burned after his death, which was accordingly done. The dog which bit him also bit several hogs that went mad in due time. The next case is that of the little four-year-old son of Edward Davidson, of Slater, Saline County, some twenty-six miles from this point.

Dr. B. F. Wilson of that place, who saw the case, states that on December 24, 1889, Mr. Davidson told his son to catch a stray cat that was on the wood-pile, and when the child was within five feet of the cat it jumped at him, seizing his hand, and the father, who witnessed the act, had to sever the cat's head to release the boy. There is no mention as to whether the child was treated preventively or not, but on the 12th of last April he states the child manifested symptoms of chill, followed by fever, and at night of the same day there was great difficulty in deglutition and preternatural nervous excitability. All these morbid phenomena were intensified the next day, and on the 14th the child expired, the predominant symptoms being rapid pulse, tetanic spasms, and difficult swallowing. A week previous to the chill his parents noticed a want of co-ordination in walking. From the time he was bitten till the 5th of April there was nothing to indicate the working of the deadly poison within his body, which was soon to make itself known in such a terribly agonizing form. This mad cat not only bit, but held on to its death-grip, thus differing essentially from the dog, which snaps and runs away, as a rule. Possibly this may be characteristic of the cat in its madness, for a case was recently published in Virginia of a rabid cat biting and holding on to the person till it was decapitated.

The fourth case is that of Mr. Lloy Wingate, living near Caldwell, Callaway County. May 14, 1889, he was at his barn and saw the mad dog coming. He got his shotgun, jumped over the lot fence trying to avoid the dog and

shoot him. Wingate, thinking the dog was coming to him, jumped over into the lot again, and starting around the stable met the dog face to face. Both barrels of the gun were snapped at the dog, which jumped at him three times. The first and second time Wingate knocked him down, but missing the third time the dog bit him on the hand. A madstone being applied to the wound stuck for eighty-four hours. Other preventive treatment was also given. His family kept a watch on him and thought he was all right again, but on the twenty-seventh day after the bite he called for a drink of water, which being presented occasioned a spasm forthwith. He died on June 14th, the spasms continuing till death released him, which was only three days after the attack. He suffered intensely. The dog that bit him is known to have been bitten by another dog a good while before.

These cases have been given somewhat in detail, so that their reality and genuineness might not be called in question. Here are four well-marked cases of hydrophobia, resulting in death, in a circumscribed district, in a few months; and they occurred under such circumstances as to leave no doubt whatever about the character of the disease. Many other details of these cases could be mentioned, were it considered necessary. What has happened in this section, it is fair to conclude, is not foreign to many other localities throughout the United States, judging from the frequent reports of the newspaper press. And why not give the secular press credit for truthfulness and correct statement when applying to this common trouble, just as is done when it reports murder, theft, arson, rape, fights, and various casualties? Surely there can be no good reason nor sound discretion in tabooing such reports when applying to rabies, and yet accept them in reference to other matters about which mistakes and exaggerations are occasionally made. All the particulars of hydrophobic cases are generally given with great minuteness, because the public is much interested in knowing such things that it may be on the watch-tower. The cases are published right where they occur, and are known to every body in the vicinity. Dates, names, ages, localities, all surrounding circumstances, together with attending physicians, are always given, which stamps the report of these cases with as much truthfulness as any others. In addition to the four cases resulting in death in this part of the State during the prevalence of this trouble, many persons have been bitten by rabid animals and receiving treatment escaped the disease. They have been bitten in every instance, perhaps, under such circumstances as to leave no doubt that it was the result of rabies in the dog. The appearance of a mad dog is well marked, and is known to most persons, from the many descriptions given from time to time, so that when seen he is usually recognized at once, especially if the community is on the lookout. The behavior of such a dog is radically different from one unaffected by rabies; he generally bites right and left promiscuously, without regard to persons or things, and keeps moving right along. Dogs unaffected do not act this way, as is well known to all persons acquainted with them when in a healthy state. In many of the bitten cases in this county the mischief was done by a stray dog invading the premises, and even the dwelling, biting people or any animal in their way. No dog that is not delirious with madness ever acts that way.

As a further test of the true inwardness of these affected dogs, many dogs bitten by them have been isolated and watched till the dread disease, in the course of from three to six weeks, would make its appearance, presenting all the characteristic features. In various parts of this county and adjacent districts, many animals—horses, cattle, hogs—have been bitten, and generally died when the disease developed, if not killed, as a matter of mercy or to insure security to others, before. Two cows and a calf, when they were delirious, wild, and furious, charging upon everything in their way, were killed in this town.

Thomas Ray, three miles east of this place, lost a fine bull and calf, from having been bitten by a stray mad dog, at one time, and five pigs from the bite of another dog at a different time. This stock was isolated; some of them dying in six weeks and others in eight weeks from bite, all of them furiously mad and affected with spasms. After attack, two or three days would wind them up. In the same neighborhood the rabid dogs bit other dogs, which were watched till the disease fully developed, when they were killed. Peter Aikman, living three miles farther east, lost two steers from rabies; one of them, he told me, tried to bite. Dr. T. A. McClory, of Marshall, informs me that he saw two horses, one cow, and three hogs suffering from rabies in that city, and there were many cases in the county, and several rabid dogs were killed. All these animals were wild and furiously mad, and generally died in spasms. This mention is but a sample of what could be related of the prevalence of rabies in other vicinities. In some parts of Illinois and Indiana dogs and stock seem to have suffered equally severely; Texas and Arkansas also have furnished their quota. Only a day or two since a heart-rending account was given of a man dying an awful death, in the throes of hydrophobia, in Arkansas. Reports coming from all parts of the United States bring information of the prevalence, more or less extensively, of the disease; and it is believed to be unjust, and not in accordance with the facts, to attribute this state of affairs to Pasteur Institute influence. It can be affirmed most confidently that no such influence has exerted itself here; the great majority of those who have suffered never having even so much as heard of a Pasteur treatment. It cannot be doubted that the disease is contagious and is transmitted by inoculation through a wound, and when this takes place the disease will develop in a certain proportion of cases, whether in animals or humans, regardless of Pasteur treatment, influence on the mind, or any other considerations. Animals seem to be more susceptible than man, and of course they are unaffected by any such sentiment. The same is true of well-attested cases of hydrophobia in children too young to know what fear of the disease means.

Now these two considerations ought to remove all doubts, it would seem, from the minds of those who investigate with a view to finding the truth about the existence of a genuine disease known as hydrophobia. Feigned cases of the disease once in a great while no doubt appear in highly nervous and hysterical patients, but they are as different in their symptoms and termination from the genuine as day is from night; and the same holds nearly as good as to tetanus. The solution of the wide prevalence of the disease at the present time may be found in the fact that for twenty-five years it has been on the increase. The writer made mention of this in an essay twelve years ago; and newspaper reports from all points of the compass in this country, for the past ten years, plainly tell the tale. Not only in this, but in other countries, especially France and England, has the disease been more prevalent recently than in former years. In consequence of the many outbreaks of rabies in England all the dogs were ordered to be muzzled last January; and as a result, the number of cases of the disorder reported fell from 81 for last quarter of 1889, to 39 for first quarter of this year, and the decrease still goes on. This shows about how much fear, or the hope of relief from Pasteur treatment, has to do with the prevalence of the disease. Cut off all avenues of inoculation, and nothing more will be heard of hydrophobia, even should there be a Pasteur Institute in every county. And why should such an Institute be a cause of harm, any way? It appears to be the most natural thing in the world that, if a person should have unbounded confidence in such treatment, just in that proportion would his mind rest easier and his tendency to fright and despondency be less. There is certainly no well-authenticated case in which the treatment has ever proved injurious; and it cannot be gainsaid that proof, statistical and of the most reliable kind, has time and again been adduced, going to show that Pasteur treatment in France has been a success, all asser-

tions by enemies of the process, or those not posted, to the contrary, notwithstanding. Success does not, of course, mean that everyone who has been inoculated escaped the deadly inroads of the powerful virus, any more than that inoculation or vaccination against variola gives exemption in every case from that pestilent disease. Indeed, some people are so susceptible to small-pox virus that they have repeated attacks. One case was reported from Canada, a few years since, wherein the patient died of the fourth attack, and another was reported from Maryland dying in the third attack.

These being facts, why should infallibly good results be expected in every case to follow anti-rabic treatment? This treatment, too, it must not be forgotten, always follows inoculation of a rabid animal. Doubtless were it applied beforehand, the certainty and efficiency of its operation would be greatly enhanced, as sufficient time would then have been given in which to protect the system. It may be asked in all seriousness whether Pasteur has not long since demonstrated, to the satisfaction of all reasonable people who have grappled with the facts, that the usefulness of his anti-rabic inoculation is placed beyond peradventure? whether, indeed, a proposition could be more thoroughly established than he has done in showing that the system, when once under the influence to saturation of his anti-rabic virus, is proof against all rabid influences whatsoever?

Let those who are disposed to pour cold water on the Pasteur treatment, and always speak deprecatingly of it, if they would know the bed-rock facts, go back to the time of his experimentation on animals—from 1880 to 1884 inclusive.

During this time various experiments were tried; among others was the experiment with two dogs which had been inoculated with rabic virus. One of these dogs was inoculated several times with his modified virus graduated to suit the case, and this dog so treated was wholly unaffected by the deadly virus in his system; while the other dog, being isolated and not subjected to treatment, soon died of rabies. Different repetitions of this experiment ended the same way.

Having been thus greatly encouraged in his efforts at finding a protective vaccine, about the middle of May, 1884, he submitted the result of his tireless work to the Academy of Sciences of Paris, and asked that a commission be appointed before whom he would give a series of experiments bearing on the question. The commission was appointed, consisting of Dr. Béclard, M. Paul Bert, M. Bouley, Dr. Villemin, Dr. Vulpian, and M. Tisserand. These were all learned men, eminently scientific, and held the leading offices in that distinguished body. The practical test of protection was made with fifty-seven dogs. Nineteen of these dogs had previously been submitted to inoculation with his attenuated virus, nineteen had undergone no protective treatment, and nineteen other dogs were rabid. All of them were confined in an inclosure, and the rabid animals put in their deadly work thoroughly and most impartially, with the result of everyone of the unprotected dogs dying in due time with rabies; while those that had been protected were wholly unaffected by the bites of the rabid dogs. This was in the presence and under the supervision of the commission, and in their report they expressed themselves as being entirely satisfied. And in the name of sound reason and common-sense why should it not satisfy everybody?

Many other experiments were tried before this learned and impartial commission, at some of which they took a hand, all going to prove that Pasteur was on the right track; that, in fact, he had discovered a genuine protective against rabies in dogs; and this being admitted, it followed very naturally that the same protective influence could be claimed for man, in strict accordance with all scientific reasoning on the transmissibility of contagious diseases between man and animals. If it afforded prosection in animals, it was bound necessarily to give protection in man, provided the proper degree of attenuation should be obtained to meet his susceptibilities. Not until after he had satisfied himself of the preservative power of his modified virus, and its innocuousness, if properly handled, and had been endorsed by this commission and other eminent scientists, did he venture to use it on the human subject, although frequently opportuned to do so by those who had received wounds from rabid animals. This was a wise caution, and showed a disposition to be on the safe side in the use of a dangerous and untried remedy; and even then it was not tried on anyone who had not been bitten by a mad dog, and, of course, the chances desperate. The same holds good to-day. Unless hydrophobia becomes far more prevalent than at present, the attenuated virus is never likely to be used preventively, as cow-pox virus is against small-pox. Since rabies appears to originate almost exclusively with the dog, a proper and legitimate use of the virus would be to inoculate with it every dog in the land. By government enactment this could be readily done; and it would most effectually put an end to the hydrophobia scare, as well as the disease itself; but, at the same time, an increased impetus would be given to the establishment of Pasteur Institutes for that purpose, and no other, as man would no longer have occasion to use them.

In view of the great danger that would be shunned, and the immense amount of good done, would it not be well to agitate this phase of the question until it is brought to the notice of our legislators? As evidence of failure in the Pasteur treatment, the statement is made, on the authority of Professor Michel Peter, that thirty-seven deaths are officially reported from hydrophobia in the Department of the Seine for the past four years, while during the four years previous only thirty-eight deaths were reported, although Pasteurism was not then in vogue. This is thought to be a clincher—a very deadener in fact; but is it really so? It is believed there is an escape from this seeming clincher, and it is found in the fact of the wide prevalence of the disease nearly all over the civilized world during the past few months. The Pasteur treatment is no more accountable for this than it is for the occasional epidemic tendency of small-pox, influenza, or the greater influx some years than others of house-flies and other insects. It is a matter of fact, however unexplainable with our present knowledge, that some peculiar condition of the atmosphere, or something else, favors such a state of things some years more than others. As the disease has been on the increase for a number of years, an epidemic outbreak might have been naturally expected. No trouble, to anything like the same extent, has ever before occurred in this community; and it can be truthfully stated, without fear of contradiction, that the Pasteur influence has had nothing whatever to do in the matter. Again, the friend of the treatment—Dr. Dujardin-Beaumetz—is quoted as having lost confidence because in the death of six persons from the disease in Paris, in 1889, three of them had been treated protectively, and the other three had received no treatment, yet both parties died just the same. This is no legitimate argument, at least it is not conclusive by any means. Those who received protective vaccination may have deferred it too late; or possibly these patients may have been so susceptible as to have required several applications of the virus, just as is found necessary in about half the cases vaccinated against small-pox. The language attributed to him does not show a loss of confidence, but only that he was in favor of invoking additional measures of safety to meet just such cases.

The question recently asked, "How can you prove that a thing which at best very rarely happens is prevented happening at all by the use of a supposed preventive," is answered most effectively, and to leave no room for doubt, by Pasteur's experiment with the fifty-seven dogs, besides many other experiments, as well as what is witnessed with our own eyes in an epidemic of rabies such as exists at present. These experiments show beyond question that it is prevented from happening in

the lower animals; and the same rule holds good when applied to humans. The Pasteur treatment is nothing more than the removal of the susceptibility in a person to various contagious diseases by inoculating such person with attenuated virus peculiar to these diseases; it matters not whether this attenuation is brought about by its previous passage through the body of an animal not much susceptible, or whether it is effected by some other of the plans now in vogue. The principle is the same, and will hold equally good with all, when the processes to meet each requirement shall have been fully understood. Use of attenuated small-pox virus explains quite satisfactorily this whole business of inoculation against contagious diseases of any and every kind. First, a small portion of the genuine wild virus was inserted beneath the skin. This was attenuation because of its infinitesimal quantity, as compared with that received in the ordinary way. A mild disease was thus produced, with scarcely a death, under preparatory treatment. Surely this was a great improvement; but when Jenner applied the same virus, after having been attenuated by passing through the cow, all that could be desired to meet the case was found. Yet persons there are, in this and other countries, foolish enough to cry it down by every means possible, in the face of a hundred years of success, such as has attended no other remedy; and the recent declaration from Holland, which states that during the years 1870–73, 20,575 persons died of small-pox, and since then, as a result of the strict enforcement of the new vaccination laws, the prevalence of the disease has steadily declined, there having been but a single death reported for last year in the whole kingdom. When serious thought is taken of this fact—when there is a realizing sense that a hundred thousand lives and more have been saved to this little territory in the few years passed since that great mortality—is there not occasion for rejoicing that a better day has dawned; that we live in an age of progress; and cannot a modicum of praise, in strict justice and fairness, be meted out to the noble men who have blazed the way for others to follow?

The reduction from 20,575 deaths in Holland, for three years, to one death for last year, answers the question again, most fully and satisfactorily, "How shall we know whether people are protected or not by these inoculations?" Hydrophobia is rare because such publicity being given to the disease through the newspapers, every community is wide awake and ready to slay all rabid animals immediately as soon as discovered. Hence, instead of doing harm, the advertisement by the press may possibly do a good that is incalculable in its results. The scare about the disease is natural, and just as it should be perhaps, for it wakes up everyone to a realization of a great danger, one in which death is almost a certain portion should the virus be allowed to incubate after a bite, and it does good therefore by inciting to extra precautions.

Because hydrophobia, in consequence of great precautionary measures enforced, has heretofore been rarely seen, is no more reason for doubting its existence than for calling in question the existence of yellow fever, cholera, or leprosy, because those diseases have not been seen by many doctors in the practice of a lifetime.

The foregoing thoughts are not offered as a defence of Pasteurism, but find expression only in the interest of science, justice, and fair-dealing.

B. F. HART, M.D.

SWEET SPRINGS, Mo, September 23, 1890.

FOOT-AND-MOUTH DISEASE AND SCARLATINA:

A REPLY TO PROFESSOR JAMES LAW'S "CORRECTION."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the MEDICAL RECORD of September 13, 1890, Professor Law is quoted as having said, in criticising my paper on Foot-and-Mouth Disease as it affects animals and man, and its relation to human scarlatina as a prophylactic, that "epizootic foot-and-mouth disease had at times attacked nearly all the cattle and the people of Great Britain."

I am very glad he has called attention to that statement, because it needs correction, but not such treatment as Professor Law has given it, or such correction as he has chosen to make. I grant that the words "Great Britain" are not given in their exact phraseological order or connection. This mistake I regret, for it makes his assertion less preposterous than it really is. In order that I may not again be misunderstood, and that "the truth, the whole truth, and nothing but the truth" may be made manifest in relation to this matter, I shall here give Professor Law's entire discussion of my paper, as it may be found in the MEDICAL RECORD of December 10, 1887, pp. 745 and 746, asking Professor Law, and whoever may read these words, to remember the fact that his (Professor Law's) remarks, and those of the gentlemen who participated in the discussion, were supposed to have been faithfully and accurately recorded, *verbatim*, by a trustworthy reporter, who was present at the Academy of Medicine on the evening of December 1, 1887, when my paper was read and discussed, and along with this another fact, namely, that if the report of Professor Law's remarks is untrue and unreliable, then the entire report of the discussion is to be put aside as valueless, or, at least, to be regarded as incorrect and unworthy of confidence. The reporter attributes to Professor Law the following words: "Professor Law was quite sceptical concerning the prophylactic influence of the foot-and-mouth disease, of which he had seen a great deal in Europe, against scarlatina. Epizootic foot-and-mouth disease had at times attacked nearly all the cattle and the people, and considering the fact that the disease was so frequently prevalent, there should be less scarlet fever in Great Britain than in America, where the foot-and-mouth disease was comparatively unknown. But so far as he knew scarlet fever prevailed and was rather fatal in Great Britain, ninety thousand dying of the disease in five years, which did not speak loudly for prophylaxis. Again, the fact that the foot-and-mouth disease conferred so short-lived protection in cattle seemed to argue against the theory that it could protect the human species against scarlet fever. Whole herds of cattle had been attacked the second time within six months after the first attack, showing that it was not merely isolated cases in which the second attack occurred. It was, perhaps, the most contagious malady known, yet the poisonous element did not extend very far into the atmosphere. So if there was no direct contact the probability was that it would not be conveyed from one to another, and in that, he thought, the disease differed from scarlet fever. His personal experience, also, tended in the direction of scepticism. For he had been exposed again and again to the foot-and-mouth disease and had never contracted it, while the very first time he was exposed to scarlet fever he took the disease. It would seem, therefore, that he was susceptible to the one and insusceptible to the other. He was the only member of a family of five which was exposed in that way that took the scarlet fever, which would seem to militate against the idea that one disease acts as a protective against the other.

As to experimentation with the foot-and-mouth disease, he believed that it should be done on the other side of the Atlantic. There were fifteen hundred million dollars worth of cattle in the United States, and there would be a terrible hue and cry should experimentation with the foot-and-mouth disease be carried on here. With regard to prophylaxis of scarlet fever proper, supposing that it could done, might it not be the means of spreading that disease? He feared that Pasteur, great and good as had been his work, had contributed to the spread of anthrax by sending broadcast attenuated virus. For the attenuated virus could be rendered potent and dangerous, and, therefore, a word of caution with regard

to the cultivation of the virus of the foot-and-mouth disease might be proper."

In reply to Dr. J. C. Peters, who spoke with reference to the occurrence of scarlet fever in cattle and horses, Professor Law said: "Dr. Peters's statement should be qualified in this way. Williams and others wrote of scarlet fevers in cattle and horses, because the name, unfortunately, had been given to the disease, but they recognized it as a non-contagious affection, and not identical with that occurring in man. There was no evidence that it was communicable from horse to horse, much less from animals to man."

Those are all the remarks Professor Law made concerning my paper on the evening of December 1, 1887, and unless the reporter was incorrect, those remarks are, word for word, letter for letter, just what Professor Law uttered in the presence and hearing of the New York Academy of Medicine three years ago.

But what does Professor Law claim in his letter, which is to be found in the MEDICAL RECORD of October 4, 1890, pp. 394, 395, and 396?

He first claims that the statement "foot-and-mouth disease had at times attacked nearly all the people of Great Britain" (attributed to him) "is a statement so preposterous that no one at all conversant with the facts could possibly have made it, and most certainly I never did." He also says the statement is so entirely at variance with the truth that he must crave the privilege of correcting it. Will Professor Law just look at the first few lines of his discussion as it is here given (copied from the MEDICAL RECORD, December 10, 1887)? He will find these words: "Professor Law was quite sceptical concerning the prophylactic influence of the foot-and-mouth disease, of which he had seen a great deal in Europe, against scarlet fever. Epizootic foot-and-mouth disease had at times attacked nearly all the cattle and people, and considering the fact that the disease was so frequently prevalent, there should be less scarlet fever in Great Britain," etc. Is the statement he complains of at variance with this one? I think he will discover that his original and accurately reported assertion was indeed preposterous. When, after having said he had seen a great deal of foot-and-mouth disease in Europe, he asserts that epizootic foot-and-mouth disease had at times attacked nearly all the cattle and the people, and when, later, he asserts there should be less scarlet fever in Great Britain, etc., what does he, what did he, mean, if not that Europe and Great Britain were the countries where nearly all the cattle and the people had this disease?

Professor Law then, at some length (see MEDICAL RECORD, October 4, 1890), states what he claims to have said while discussing my paper, on December 1, 1887; and as my veracity is attacked, I shall ask Professor Law to compare what he has recently written (which I shall quote just here) with what he actually said three years ago, and then ask him and the profession to determine whether the two coincide. Professor Law says (in above issue of MEDICAL RECORD, p. 394): "Among other things I said that throughout Great Britain farmers were in the habit of purchasing their stock for winter feeding at large fairs or markets, and that as foot-and-mouth disease was perhaps the most contagious of all diseases of ruminants, the droves brought from such markets in certain years had, as a rule, brought the disease with them and contaminated the home stock. In such cases all who took the milk of the infected cows on such farms were exposed to the infection. Similarly, at that date in Great Britain the city dairies were replenished at frequent intervals with cows drawn from the public markets, and already in fine condition, and these were turned over to the butcher in from two to six weeks if they contracted *lung-plague*, or in six to nine months when the yield of milk began to shrink, if they escaped that disease. Thus the city dairies, being all the time restocked from the public market, were all the time exposed to contract foot-and-mouth disease, and, as a matter of fact, those cows that had passed through the limited period of acquired immunity did really contract the affection. By this means the city population were very frequently exposed to the infection, and if the diseases were identical, all persons who had not already suffered from scarlatina should have contracted the malady." He then goes on to say: "This you will perceive is a widely different claim from that so erroneously attributed to me by Dr. Stickler. He makes me say that nearly the whole British nation had suffered from foot-and-mouth disease. What I did say was that they had been exposed to the infection, and would have suffered, if the claim of identity of the two diseases set up by Dr. Stickler had had a basis of truth." I challenge Professor Law, or anyone else, to find a single sentence of the above, as here stated, in his original discussion, and as what he claims to have said is wholly at variance with what he actually did say, his "correction," so far as it aims at stigmatizing me with untruthfulness, I do not accept, neither do I think the profession will justify him in his action. If he did not mean what he said, that was a matter which ought to have been explained at the time. What I aim at is truthfulness and painstaking in my effort to discover whether the disease in question may furnish a means of preventing the development of scarlatina by giving us a virus which will be innocuous and reliable. As yet I claim nothing; I am simply studying and investigating, and as I have opportunity I shall speak and write of what I learn, whether it be encouraging or discouraging. Honest and fair criticism I welcome. Unfair and untrue comment I despise. What I say in this reply to Professor Law, I say in a spirit of kindliness, wishing only to vindicate the position I have taken with reference to this matter.

Respectfully,

JOSEPH WILLIAM STICKLER, M.D.

DERMATOLOGICAL INSTRUCTION IN AMERICA.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Your editorial of last week, quoting from Dr. Morrow's address on "Dermatological Instruction in America," states the following: "There is no medical school in this country in which the study of diseases of the skin is obligatory; in none is a knowledge of this important branch of medicine required as a condition of graduation; the professor in this department is not allowed to interrogate students, and has no voice in deciding upon their qualifications for a degree."

Will you permit me to say that this is not strictly true? In the College of Physicians and Surgeons of this city the study of diseases of the skin is obligatory. No student is allowed to graduate there without passing an examination in this important branch, while the professor in this department is not only allowed but required to conduct this examination, the result of which decides, in a measure, the student's qualifications for a degree.

I have the honor to be,

Very truly yours,

GEORGE HENRY FOX, M.D.

NEW YORK, October 20, 1890.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department. United States Army, from October 12 to October 18, 1890.

EBERT, RUDOLPH G., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Angel Island, Cal., to take effect upon the arrival at that post of Major William H. Gardner, Surgeon, and will then proceed to Vancouver Barracks, Wash., and report to the commanding officer of that post for duty. S. O. 232, par. 15, A. G. O., Washington, D. C., October 3, 1890.

SMITH, ALLEN M., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Snelling, Minn., and will report in person to the commanding officer at Fort Assiniboine, Mont., for duty at that station, relieving Lieutenant Paul Shillock, Assistant Surgeon. S. O. 232, par. 8, A. G. O.,Washington, D. C., October 3, 1890.

SHILLOCK, PAUL, Lieutenant and Assistant Surgeon. By direction of the Secretary of War, upon being relieved, will report in person to the commanding officer at Fort Custer, Mont., for duty at that station, relieving Captain William R. Hall, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

HALL, WILLIAM R., Captain and Assistant Surgeon. By direction of the Secretary of War, upon being relieved, by Lieutenant Shillock, will report in person to the commanding officer at Fort Schuyler, N. Y., for duty at that station, relieving Captain Norton Strong, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

STRONG, NORTON, Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Hall, will report in person to the commanding officer at Fort Meade, S. Dak., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

HUBBARD, VAN BUREN, Major and Surgeon. By direction of the Secretary of War, relieved from duty at Columbus Barracks, O., and will report in person to the commanding officer at Fort Spokane, Wash., for duty at that station, relieving Captain Henry S. Turrill, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

TURRILL, HENRY S., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Major Hubbard, will report in person to the commanding officer at Madison Barracks, N. Y., for duty at that station, relieving Major John D. Hall, Surgeon. S. O. 232, A. G. O., Washington, D. C., October 3, 1890.

HALL, JOHN D., Major and Surgeon. By direction of the Secretary of War, on being relieved by Captain Turrill, will report in person to the commanding officer at Fort Canby, Wash., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

STERNBERG, GEORGE M., Major and Surgeon. By direction of the Secretary of War, relieved from duty as Attending Surgeon and Examiner of Recruits at Baltimore, Md., and as a member of the Army Medical Board appointed to meet in New York City, and will repair to San Francisco, Cal., and take charge of the Medical Purveying Depot at that place, as Acting Assistant Medical Purveyor, relieving Colonel B. J. D. Irwin, Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

IRWIN, B. J. D., Colonel and Surgeon. By direction of the Secretary of War, on being relieved, will report in person to the commanding general Department of the Columbia, for assignment to duty as Medical Director of that Department, and as Post Surgeon, Vancouver Barracks, Wash., relieving Major William E. Waters, Surgeon, now post surgeon, and temporarily in charge of the Medical Director's office. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

WATERS, WILLIAM E., Major and Surgeon. By direction of the Secretary of War, on being relieved, will report in person to the commanding officer at Fort Custer, Mont., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

MUNN, CURTIS E., Major and Surgeon. By direction of the Secretary of War, relieved from duty at Angel Island, Cal., and will report in person to the commanding officer at Fort Monroe, Va., for duty at that station, relieving Major John Brooke, Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

BROOKE, JOHN, Major and Surgeon. By direction of the Secretary of War, on being relieved by Major Munn, will report in person to the commanding officer at Fort Leavenworth, Kan., for duty at that station, relieving Major Alfred A. Woodhull, Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

WOODHULL, ALFRED A., Major and Surgeon. By direction of the Secretary of War, on being relieved by Major Brooke, will report in person to the commanding officer at Fort Sherman, Idaho, for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

BORDEN, WILLIAM C., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Sam Houston, Tex., upon the arrival of Lieutenant-Colonel C. C. Byrne, Surgeon, and will report in person to the commanding officer at Fort Davis, Tex., for duty at that station, relieving Captain Peter R. Egan, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

EGAN, PETER R., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Borden, will report in person to the commanding officer at Fort Warren, Mass., for duty at that station, relieving Captain George McCreery, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

MCCREERY, GEORGE, Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Egan, will report in person to the commanding officer at Fort Clark, Tex., for duty at that station, relieving Captain Charles M. Gandy, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

GANDY, CHARLES M., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain McCreery, will report in person to the commanding officer at Fort Shaw, Mont., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

GARDNER, WILLIAM H., Major and Surgeon. By direction of the Secretary of War, is relieved from duty at Washington Barracks, D. C., to take effect on the arrival of Major Joseph K. Corson, Surgeon, and will report in person to the commanding officer at Angel Island, Cal., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

CRONKHITE, HENRY M., Major and Surgeon. By direction of the Secretary of War, relieved from duty at Fort Lewis, Col., and will report in person to the commanding officer at Fort Trumbull, Conn., for duty at that station, relieving Captain Robert J. Gibson, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

GIBSON, ROBERT J., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved from duty by Major Cronkhite, will report in person to the commanding officer at Fort Sam Houston, Tex., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October, 3, 1890.

WOOD, LEONARD, First Lieutenanant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 74, August 30, 1890, Department of California, is extended one month. S. O. 232, par. 7, A. G. O., Washington, D. C., October 3, 1890.

BAILY, JOSEPH C., Lieutenant-Colonel and Assistant Medical Purveyor, Medical Director of the Department. Granted leave of absence for one month. S. O. 86, par. 3, Department of Texas, October 3, 1890.

BYRNE, CHARLES C., Lieutenant-Colonel and Surgeon. Relieved from duty as attending surgeon at the Soldiers' Home, near this city, and will report in person to the commanding officer at Fort Sam Houston, Tex., for duty at that station. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

FINLEY, JAMES A., Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Totten, N. D., and will report in person to the commanding officer at Jefferson Barracks, Mo., for duty at that station, relieving Captain William D. Crosby, Assistant Surgeon. S. O. 232, par. 8, A. G. O., Washington, D. C., October 3, 1890.

CROSBY, WILLIAM D., Captain and Assistant Surgeon. By direction of the Secretary of War, on being relieved by Captain Finley, will report in person to the commanding officer at Fort Pembina, N. D., for duty at that station. S. O. 232, par. 8, A. G. O. Washington, D. C., October 3, 1890.

MACAULEY, C. N. BERKELEY, Captain and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Supply, I. T., and will report in person to the commanding officer at Fort Lewis, Col., for duty at that station. S. O. 233, par. 2, A. G. O., Washington, D. C., October 4, 1890.

CHERBONNIER, ANDREW V., Captain and Medical Storekeeper. By direction of the Acting Secretary of War, his retirement from active service on October 12, 1890, by operation of law, under the provisions of the Act of Congress, approved June 30, 1882, is announced. S. O. 240, par. 11, A. G. O., Washington, D. C., October 13, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 18, 1890.

BRAISTED, WILLIAM C., Detroit, Mich. Appointed an Assistant Surgeon.

WALES, P. S., Medical Director. Detached from temporary duty as member of Medical Examining Board.

AMES, H. E., Passed Assistant Surgeon. Detached from temporary duty as member of Medical Examining Board.

HERNDON, C. G., Surgeon. Ordered to Naval Hospital, New York.

PERSONS, R. C., Surgeon. Detached from Naval Hospital, New York, and to wait orders.

SCOTT, H. B., Passed Assistant Surgeon. Ordered before the Retiring Board.

PRICE, A. F., Surgeon. Detached from Naval Dispensary, Washington, D. C.

ANDERSON, FRANK, Passed Assistant Surgeon. Ordered to Naval Dispensary, Washington, D. C.

WHITE, C. H., Medical Inspector. Ordered to hold himself in readiness for duty on the San Francisco.

BRAISTED, W. C., Assistant Surgeon. Ordered to Army and Naval Hospital, Hot Springs.

SPRATLING, L. W., Assistant Surgeon. Ordered to hold himself in readiness for orders to the San Francisco.

SIGFRIED, C. A., Surgeon. Ordered to the Training-ship New Hampshire.

BLACKWOOD, N. P., Assistant Surgeon. Detached from duty in the Bureau of Medicine and Surgery, and granted leave of absence.

STONE, L. H., Assistant Surgeon. Detached from the New Hampshire and to wait orders.

EDGAR, JOHN M., Passed Assistant Surgeon. Ordered to hold himself in readiness for duty on the San Francisco.

GARDNER, J. E., Passed Assistant Surgeon. Detached from the Albatross and to wait orders.

BRIGHT, GEORGE A., Surgeon. Detached from temporary duty at the Naval Academy, and placed on waiting orders.

AYRES, J. G., Surgeon. Detached from temporary duty at the Naval Academy, and placed on waiting orders.

LUMSDEN, GEORGE P., Passed Assistant Surgeon. Detached from the Boston, and granted three months' leave.

AUZAL, E. W., Passed Assistant Surgeon. Detached from the Naval Academy, and ordered to the Boston.

SMITH, HOWARD, Surgeon. Ordered to appear before the Retiring Board at Mare Island, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 18, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	45	14
Scarlet fever	34	4
Cerebro-spinal meningitis	0	0
Measles	54	7
Diphtheria	53	15
Small-pox	1	0
Varicella	2	0
Pertussis	2	0

Insurance and Murder in England.—Children are now insured before they are born, and at the payment of one penny a week. This insures a sum which far more than covers the funeral expenses, and the same child is often insured in more than one office. Under such a system the father or mother may make a profit of three or four pounds on the death of a baby, to say nothing of what would be spent on food and clothes. The Bishop of Peterborough repeated a shocking phrase, which explains itself, and which would be only weakened by comment. They talk in a town which he did not and we will not mention, of "having a little funeral and a big drink." Now, of course, it does not follow that, because these things may be done, they are done, and some optimists argue that they cannot be done. There is, they say, the fear of the gallows—"S'il n'y a pas un Dieu, il y a toujours le gendarme"—and there is the doctor's certificate. To cut an infant's throat or give it prussic acid would not only be desperately wicked, but incredibly foolish. Insufficent food, and judiciously improper treatment in one or two small particulars, and the flickering light is effectually quenched. "Would any of your lordships," asked the bishop, "be willing to intrust a child of yours to a sick-nurse who had a pecuniary interest in its death?" A medical man wrote to the Bishop of Peterborough to say that he had for some time insisted on an inquest whenever an insured child died. What happened? He appeared as a witness, and was asked if he could swear that the child would have lived if it had been properly fed. He could not, and the verdict was "Death from natural causes," avoiding at least the awful blasphemy of "Died by the visitation of God."—*The Saturday Review.*

Attributed to the Wrong Cause.—The Chicago *Tribune* tells of a Missourian who died from having gorged himself with veal and hard cider. He was a member of several societies, all of which passed resolutions imputing his removal to Divine Providence.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 18.
Whole No. 1043.

NEW YORK, NOVEMBER 1, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

SOME FURTHER REFLECTIONS ON PASTEUR'S ANTIRABIC INOCULATIONS.[1]

BY JOSEPH DRZEWIECKI, M.D.,

LATE ORDINARY PHYSICIAN IN THE UNIVERSITY CLINIC OF THE HOLY GHOST HOSPITAL, WARSAW, RUSSIAN POLAND.

IN the last issue of the *Annual of the Universal Medical Sciences*[1] I find the following statement about hydrophobia:

"In speaking of an anti-Pasteur meeting in London, the *Medical Press* notes that, while all agree in their opposition, the objectors base their action upon distinct and antagonistic grounds. Thus far, the cause of the antirabists has been upon lines strikingly parallel to those of the anti-vaccinationists, and, while there are undoubtedly some intelligent persons who do not accept Pasteur's deduction, the probability is that the opposition will finally be confined to the smaller collection of unreasonable cranks."

The author of the above words should know that in science there ought to be no antagonism, but arguments. The history of medicine presents the best proof how many erroneous theories during a long time existed in our science, and we, who learn the past and know it well, should endeavor not to repeat the faults of our ancestors. Thus the theory of anticharbon inoculations, which not long ago created a great noise in the whole world, is now rejected, and, being injurious, is prohibited in Russia and Germany. Up to the present day the question of the antirabic inoculations counts many intelligent opponents, who continually raise their voices against this treatment, and therefore the question cannot be considered as settled.

From the above we must thoroughly examine Pasteur's theory and its arguments.

The *contagion* of hydrophobia, according to the present opinion, is claimed to be due to bacteria, which thus far has not been detected. As a solid body it does not diffuse through burnt clay, and on the other hand that it can be transferred by inoculation from one organism to the other is the best proof of its faculty of multiplication. However, it loses its power under action of heat, dryness, and in the presence of free oxygen. The chemical poisons have other properties: they diffuse through burnt clay, and are less affected by temperature, dryness, and oxygen, and cannot be transferred by inoculation from one organism to the other.

The contagion of hydrophobia, according to the opinion of Pasteur and his adherents, is principally localized in the brain and spinal cord, from which place it passes through the nerves; in much smaller quantity it exists in the salivary glands and in the saliva, but not in the tissues and in the blood, because the latter destroys it by oxidation.

Although the former experiments of Hartwig proved that the saliva is most and the nerve tissue least contagious, we must recollect that in ordinary conditions contagion enters the organism of animals and men by introducing saliva and not by preparations from the spinal cord; hence Pasteur in his experiments should pay attention to the former, and not to the latter.

[1] Vol. iii.

The foundation-stone of Pasteur's theory is a gradual accommodation of the organism to the gradually increasing virus, which is localized in the brain and spinal cord. According to Pasteur, the bacteria of hydrophobia, on being introduced into the organism, commence directly, but slowly, to travel through the nerves into the brain, and on their arrival there the disease breaks out. In ordinary conditions one, two, or more days elapse before the patient enters Pasteur's or his followers' institute. Immediately the inoculations of the dry cord of rabbits with graduated virulent properties are made, so that when real bacteria come into the brain it is insusceptible to their action. In this manner, according to Pasteur, there exists a bacterium race, in which the weaker the bacteria the sooner they enter the brain. A special kindness of the bacteria to Mr. Pasteur's theory! Yet some of Pasteur's adherents find the reason of the weakened bacteria coming sooner into the brain in their getting there by the circulation, but if we consider the oxidating property of the blood, and on the other hand the obstacle in the shape of capillary vessels in the lungs, we must agree that this theory is nothing but an empty phrase. Still more unintelligible is for us the dosing of the contagion of hydrophobia, as Högyes[2] is doing it, and whose experiments, as the adherents of Pasteur's theory affirm, are the best proof in favor of it. Högyes, too, makes use of the spinal cord of an infected rabbit, but instead of drying it to a gradually increasing extent to obtain various degrees of activity, he merely rubs it up with water containing chloride of sodium so as to make solutions varying in strength from one-tenth to one-thousandth (by weight). The dog to be protected is injected successively with these, beginning with the weakest. Permit me to ask, can contagion with its easy faculty of multiplication be dosed, as is done, with soluble chemical poison? Who can warrant that one bacterium may not in a short time produce millions?

The action of antirabic inoculations is not clear to us, and can in no way be explained. It is neither accustoming the organism to poison, as it does with morphia, cocaine, etc., because the dose of poison can be fixed exactly, whereas the exact quantity of rabic virus, on account of the multiplication of bacteria is uncertain and impossible to determine. The poison getting into the blood by absorption, the rabic virus only enters the nervous centres by passing through the nerves. The poison always produces its own peculiar symptoms, and being taken in increasing doses is always injurious to the organism; the rabic virus does not produce any bad symptom, but only salutary effects!

It is neither possible to detect any analogy between vaccination and antirabic inoculations, as some writers do without criticism: (*a*) Only healthy persons are vaccinated, while the antirabic inoculations are made on infected persons; (*b*) by vaccination we produce an artificial mild form of disease, in order to lessen the violence of the small-pox, when it breaks out, while the antirabic inoculations do not produce any disease; (*c*) the adherents of Jenner's method prove by statistics that vaccination mitigates the violence of small-pox, while, in spite of Pasteur's inoculations, a mild form of hydrophobia is not yet known.[2] Thus we see that we would vainly endeavor

[1] The Lancet, 1887, vol. ii., page 1185.

[2] Although Welch of Baltimore (Centralblatt für Bacteriologie, 1887) supposes that small-pox may be weakened in its form by vaccination during the period of incubation, yet his observations are delusions

to explain Pasteur's method by any of the accepted theories in medicine. It is something quite new and incomprehensible. Therefore the question arises, why Pasteur's method has found such great approbation and success? Above all it was recommended by the name and merits of M. Pasteur, and afterward by his statistics and experiments on animals.

Before we come to Pasteur's statistics we must first stop to consider experiments with prophylactic inoculations on animals.

It is well known that men as well as animals possess their own insusceptibility to hydrophobia and rabies, but this the experimentalists have never taken into consideration. Conscientious researches of many writers proved that only thirty-seven per cent. of infected dogs become mad,[1] or that of one hundred dogs bitten by rabid animals only one-third died of rabies, and two-thirds remained healthy. I ask, How is it possible to determine in the experiments whether a dog is susceptible to the virus or not? As there is no criterion, we have no right to affirm that only prophylactic inoculations secure him from rabies, because the same result may be the consequence of his insusceptibility to the virus. In this manner it is clear why in Frisch's experiments some dogs become rabid, and some not; those who were insusceptible to the virus did not become rabid, and the others, who were susceptible to it, became mad. By the same reasoning may be explained, why fifty of Pasteur's, and twenty-four of Högyes' dogs were insusceptible even to the strongest virus. Besides the experiments on animals are made—as already mentioned—with the dry spinal cord, and not with saliva by which the disease is transferred.

We come to the statistics. Trousseau taught his pupils that hydrophobia is a disease which very rarely occurs in the human race, and that in France, 20 to 25 cases of death occur each year from hydrophobia. Recent researches show that the average number of deaths per year in France, is 25; in Bavaria, 18 to 20; in Austria, 58; in England, 43; and in London, alone, 8.5. If we compare these numbers with the whole population, are we to regard them as serious enough to establish special expensive institutes and specialists? For health and security of life would be too expensive to society if, in order to secure twenty-five persons from hydrophobia in France, 1,700,000 francs are spent, while far more persons die from phthisis, small-pox, diphtheria, etc., and nobody thinks of establishing special institutes for these diseases.

According to Tardieu, Boudin, Brouardel, Thamheyn,[2] of persons bitten by undoubted rabid dogs only eight per cent. die, or out of one hundred, 92 remain healthy without any treatment.[3] Considering, however, that to Pasteur's Institute all bitten persons apply, even such as are not bitten by mad dogs, and that at least one-half of them were treated at home directly after the bite by cauterization or washing the wounds, and were so secured from bad consequeeces, it cannot appear strange to us that the mortality of eight per cent. must be considerably reduced, and the statistics given by Pasteur and others must not astonish us.

As observation showed, out of biting dogs there are six times more not rabid or suspected dogs than undoubtedly rabid, and if we are to speak of the one and the other, we must own that not eight per cent. but only $\frac{8}{6}$ per cent., or 1.33 per cent., should get rabid. Dr. Stanislaus Rybicki, in his article on the same subject published in the Polish paper (*Medycyna*, No. 47, 1889) mentions a very interesting fact. He served as "officer of health" during twenty-three years in the district of Skierniewice, and during that time he had occasion to observe 232 persons bitten by rabid dogs, of which, with exception of two, all were treated by cauterization of the wounds. Of this number only two died, and namely those who had not been cauterized, which makes only 0.86 per cent. Statistics is a two-edged sword, and more than once has led to false results.

According to Lutaud,[1] Pasteur and Grancher juggle with ciphers, and show that the mortality of hydrophobia falls to 1.5 per cent. If we, however, consider the above remarks, we cannot apply any value to such statistics. Lutaud from the very beginning of the introduction of Pasteur's method carefully noticed all cases of death after treatment in the Institute, and although a great part might have escaped his attention, yet those collected in 1886, 1887, 1888, and 1889 prove that *the mortality from hydrophobia in France after the introduction of Pasteur's method . . . increased.* According to his statistics,[2] in France alone 154 Frenchmen died of hydrophobia, of these 90 were inoculated in the Institute, and 64 not, making a yearly average of 38 cases of death, whereas up to the time of introduction of antirabic inoculations only 25 to 30 died in France, the best proof that the mortality increased. Of the detailed tables given by Lutaud, in which, besides the name, place of lodging, and age of every person, is also stated the date of bite, and day on which the treatment was concluded, and day of death, etc., by which may be seen that of Frenchmen alone the deaths were in 1886, 19; in 1887, 27; in 1888, 23; in 1889, 21; total 90. Of this number—according to Lutaud—31 died with symptoms of paralytic rabies, which he regards as a proof of the development of disease, not as consequence of bites but of preventive inoculations.

In the same opinion shares Professor Peter, whom I mentioned in my article on the same subject of last year. As to my opinion, the antirabic inoculations help in so much as they deprive the patient of fear, and how important this is is shown by facts published in *The Lancet* (July 6, 1889) under the title: "The Effects of Fear on the Development of Hydrophobia." However, the inoculations must be made with great precaution and fear lest they terminate in such fatal results as happened with charbon-inoculations in Odessa, where in consequence of the preventive inoculations 5,000 sheep died, so that the Russian Government, after due inquiries, prohibited this preventive method forever. Formerly the same results were obtained from preventive inoculations of syphilis in Sweden.

Summing up all the above we come to the following conclusions: 1. The theory of antirabic inoculations is quite new and cannot be compared either to gradual accustoming the organism to poison, or to vaccination. 2. The antirabic inoculations do not weaken hydrophobia nor prevent it. 3. The problematical effect of them arose on one side from the experiments on animals, whose insusceptibility to the virus was not regarded, and on the other from statistics of inoculations made unscientifically and with bias. 4. From the time of the introduction of Pasteur's method the mortality of hydrophobia not only not lessened but increased in France. 5. If the antirabic inoculations ever have any influence, it is only a removal of fear from the patients, but as we have no surety of their being not injurious they should not be applied for this purpose.

WARSAW, 87 KRAKOWSKIE PRZEDMIESCIE.

with which we meet every year in medical science. His observations have not yet been proved by anybody, and daily facts oppose them: (*a*) vaccination has no effect in the time of incubation; (*b*) and if it accidentally has, it produces only papules and not pustules, and the former do not at all prevent the inoculated from severe small-pox; (*c*) but if it happens that in this case the course of the disease is mild, it can be ascribed to nothing else but accident, as it is well known that persons even not vaccinated may have only a mild form of small-pox.

[1] A. Heller and O. Bollinger, loc. cit.

[2] Handbuch der Chronischen Infectionskrankheiten von A. Heller und O. Bollinger, 1874.

[3] Compare statistics of Dr. Kitchenski, quoted by me in the MEDICAL RECORD, June 15, 1889, page 645.

A Fortune in Teeth.—It is said the American dentists use in the form of gold filling for the teeth 1,800 pounds of gold, representing $450,000.

[1] Journal de Médecin de Paris, March 30, 1890, pages 200 and 201.

[2] Loc. cit.

THE ROTARY ELEMENT IN LATERAL CURVATURE OF THE SPINE.

By A. B. JUDSON, M.D.,
NEW YORK.

THE method of accounting for the rotation attending lateral curvature of the spine, which I proposed about fifteen years ago,[1] occurred to me when preparing a lecture on lateral curvature for the Women's Medical College in New York City. It seemed to me then, and I have seen no reason to change my opinion, that rotation takes place because the anterior part of the column, the bodies, are free to move laterally in the cavity of the chest and abdomen, while the posterior part of the column, the processes, are prevented from the same degree of lateral displacement by being entangled in the posterior parietes, composed of ribs, muscles, and fasciæ. This anatomical disposition of the parts is recognized when a subject is eviscerated on the dissecting-table. The vertebral bodies are seen projecting strongly into the cavity of the trunk, while the vertebral processes are fused into the parietes, as need not be mentioned to anyone who has dissected in this region. This arrangement is also seen in Fig. 1, which is copied from a drawing made by Mr. Alexander Shaw, for Sir Charles Bell's "Practical Essays."

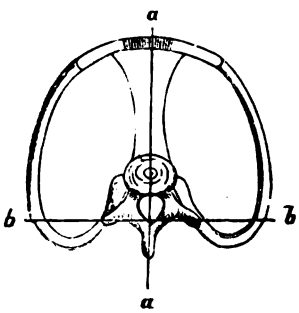

FIG. 1.

The rotation attending lateral curvature may be seen in the preparations found in every pathological museum. Curvature, with due rotation, may also be produced in a

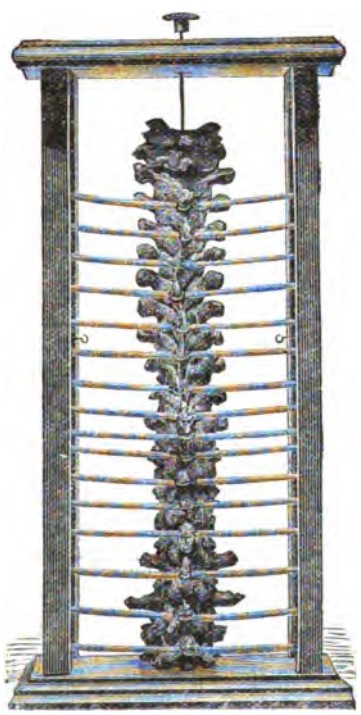
FIG. 2.

preparation like that shown in Figs. 2, 3, and 4, in which the vertebræ of a normal spine are assembled under mechanical conditions similar to those found in the body. They are strung on a rod which is flexible laterally, and the spinous processes are hindered from wide lateral excursion by elastic spiral wires. The column thus arranged, when subjected to downward pressure, exhibits rotary lateral curvature, and when the middle of the column is restrained we have a compensating curve with its appropriate rotation, exactly as we have them in the healthy or diseased spine.

When we consider a single vertebra in rotation it is seen that, as it moves away laterally from the median line, the body makes a wider excursion than the spinous process, the body moving three-fourths of an inch perhaps, while the process may move one-fourth of an inch; and this constitutes rotation. The vertebra does not have

FIG. 3.

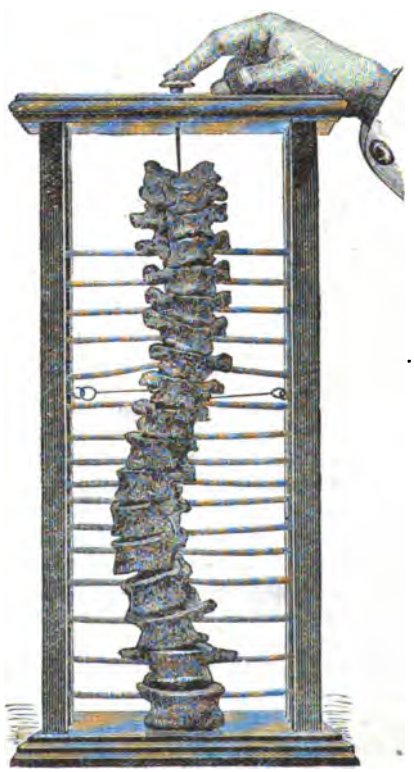
FIG. 4.

rotation on a central axis, as shown in Fig. 5, neither does it have rotation on a peripheral axis, as in Fig. 6; but it performs its rotation on an eccentric axis, one remote from the periphery, and still further removed from the centre, as is shown in Fig. 7.

[1] Transactions of the New York Academy of Medicine, 1876, pp. 315-330.

The lateral curvature is less in the processes than in the bodies, a very important point in an effort to appreciate the extent of the deformity, the gravity of the case. It follows logically, and is also true in practice, that an earlier diagnosis can be made by looking for rotation than for curvature.

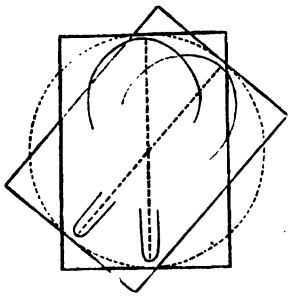

Fig. 5.

It will be found that this theory of the production of rotation agrees with all the phenomena which are observed in lateral curvature. For instance, the rotation is greater or less according as the curvature is greater or less; in the compensating curve the rotation as well as the curvature is reversed; and in the cervical region there is no rotation, because there is no cervical cavity corresponding to the thoracic and abdominal cavities.

It is an interesting fact that rotation is physiological as well as pathological, that is, it occurs in health as well as in disease. It is one of the functions of the normal spine. Lateral curving of the spine cannot occur without it. It adds a sinuous grace, which is difficult to describe, to attitude and action, as may be observed by close attention in the gymnasium. It may be easily demonstrated in a thin person by observing the prominence caused by the transverse processes on the side of the convexity of the curve, a prominence which has not infrequently, in patients affected by extreme lateral curvature, been mistaken for a morbid tumor.

It is probable that the apparent deflection of the track of the bullet in the case of President Garfield, was caused by the rotation of the spinal column accompanying strong lateral curvature. The track of the ball was found post mortem to traverse the vertebral body from right to left, and from behind forward, as shown by the direction of the arrow in Fig. 7. It will be remembered that the assailant was behind and to the right. I suppose the first shot was harmless, and caused the President to look over

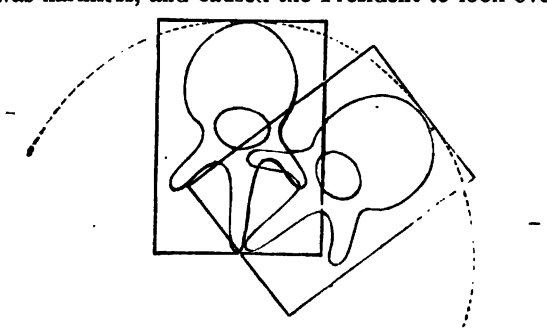

Fig. 6.

his right shoulder. Seeing the murderer preparing to fire again, he leaned strongly forward and toward the left, instinctively making the outline of his figure as small as possible, doubtless quickening his steps at the same time. This lateral curve of the spine threw the vertebral bodies far to the right, and they received the missile coming directly from behind. The concussion of the cord produced temporary paralysis, the victim fell, and the spinal column in straightening gave to the track of the ball the appearance of deflection.

The presence of rotation seriously complicates the question of treatment, because when lateral pressure is applied to the ribs for the purpose of straightening or supporting the column, a portion of the pressure, at least, reaches the column so far back, by reason of the articulation of the ribs with the transverse processes that it may even promote rotation, or at least prevent its reduction. If we could invade the cavity of the trunk and make direct lateral pressure on the bodies of the vertebræ, we might happily oppose at once the rotation and the lateral curvature.

An early diagnosis may generally be made by looking for rotation, which may be recognized by asymmetry of the scapulæ and by palpation of the chest between the two palms, which will reveal a difference in the diagonal diameters of the chest when curvature is slight or overlooked in the line of the spinous processes. If, for instance, there is rotation of the bodies to the right in the dorsal region, the diameter of the chest from the angles of the right ribs to the left mammary line will exceed the

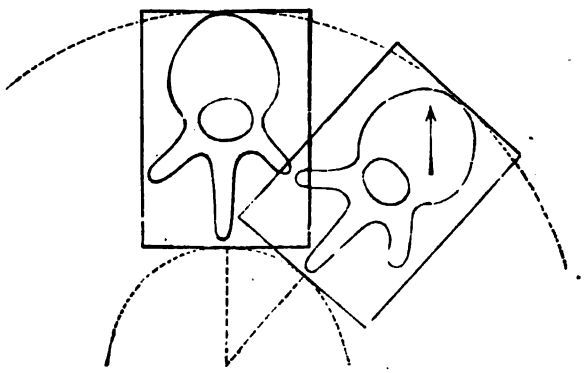

Fig. 7.

diameter taken from the angles of the left ribs to the right mammary line.

In the absence of accepted views of the etiology of lateral curvature, I assume that the deformity is an expression of inability on the part of the muscles (very likely of nervous origin) to hold the trunk erect. I am led, therefore, to advise the patient, in the first place, to give up tasks of all kinds, to practise reasonable methods of improving the health, to avoid treatment which involves muscular fatigue, and, instead of trying to hold the spine erect, to take and keep the recumbent position at will. In the next place, I advise the patient to adopt persistently, as many hours in the twenty-four as is possible, those attitudes in which the spinal column is as nearly symmetrical as may be, assuming that the increment then taking place will be on the right side of the dividing line between deformity and symmetry. The supine position, in which perfect repose is maintained with the nearest approach to symmetry, should be taken during the hours of sleep, and as much of the time during the day as is practicable. In the third place, I seek to produce lordosis of the dorsal and lumbar regions, on the theory that the patient is thus led to remove the imposed weight, or a part of it, from the bodies of the vertebræ which deviate widely from the median line to the articular processes, which, in virtue of rotation, remain comparatively near the median line. This may be done by suspension on the curved back-board, and also by using an air-pillow, about ten by eighteen inches (No. 2), placed under the back when the patient is supine, in such a manner that the shoulders may fall into the space between the air-pillow and the pillow for the head, and the pelvis may hang over the lower edge of the air-pillow. This position is to be assumed whenever the patient is recumbent, day or night.

In passing, I would say that suspension by the upper extremities, in any of the forms in which it is practised, is to be encouraged up to, but not beyond, the point at which it causes fatigue. In this way we can forcibly and directly separate the chest-walls for the purpose, first, of opposing the deformity, which lessens the capacity of the chest, and, second, of fortifying the health and strength, which depend largely on unimpeded respiration.

I am unable to express confidence in the use of braces applied for the forcible arrest or reduction of curvature. I can understand the application of force to straighten the knee, with pressure from before backward in the neighborhood of the joint, and counter-pressure from behind forward at points remote from the joint, on the bony levers which compose this joint; but am at a loss when I try to straighten by pressure a column composed of a score of short, jointed bones thrown into a double or triple

curvature, with the added complication of rotation in two or three directions.

Here, as on many other occasions in practice, one cannot help wishing that it were possible to do by the use of apparatus what we can do manually. Pressure made by a brace has the disadvantage that it is directed toward the centre of the body, with counter-pressure from the opposite side, also directed toward the centre. Force thus applied is useless as opposed to the rotation of the spinal column. But with the hands applied to the ribs the body may be rolled between the two palms and the pressure thus applied is not directed toward the centre and may possibly act against rotation. This can hardly be done by the use of a brace. Even if the apparatus is designed to make pressure not directed toward the centre, with a fixed point at the pelvis, with the purpose of untwisting the rotated column, it is to be feared that the force applied to reduce the rotation of one of the curves would do harm by promoting the rotation of the other curve, which is in the opposite direction, and an apparatus designed to act in both directions, with a common base at the pelvis, would probably prove to be too complicated to be useful in practice.

The only way in which I could hope to produce a favorable effect by direct force is to apply pressure by means of a steel brace from behind forward in such a way as to favor lordosis of the whole column. In this way it is quite conceivable that when the patient is erect both the primary and the compensating curves, and the rotation accompanying them, may be mitigated by a transference, as in the mechanical treatment of Pott's disease, of a part of the weight from the bodies, which deviate widely from the median line, to the processes which, by virtue of their anatomical connection, are held comparatively near the median line. Force thus applied would also affect the lateral processes on the convex side of the curve, which are rotated backward, before it reaches those on the concave side, which are rotated forward, and in this way it is conceivable that in a favorable case rotation may be forcibly and directly opposed in both the primary and secondary curves.

A general clinical view of the subject leads to the opinion that lateral curvature is not always a serious affection. It is certainly true that many persons lead happy and laborious lives with a marked deformity which is recognized by the dressmaker, and almost no one else. In view of this we can better reconcile ourselves to the admission that it is impossible to reduce a curvature which has passed the incipient stage. On the other hand, it is also true that in cases of exceptional severity, the kyphotic deformity is extreme, rivalling the worst results of spinal caries. Treatment should therefore be thorough and persistent in the case of a growing patient. We may thus reasonably expect to avert serious deformity, and approximate symmetry as closely as the nature of the case will admit.

A STUDY OF ONE HUNDRED CASES OF PNEUMONIA IN CHILDREN.[1]

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PNEUMONIA, inflammation of the lungs, or pneumonic fever, is a disease having a history running back as far as medical records extends. Its name has varied somewhat with the time, place, and special theories of observers. Its treatment has varied still more, yet the same disease may be recognized, the same things may be said of it as to prognosis and treatment as in times past.

In May, 1888, I began making a few notes and observations on pneumonia among patients in tenement houses in connection with my visiting for Demilt Dispensary. From that date until August 1, 1890, 146 cases of pneumonia came under my care. One hundred of these were children under ten years of age. These I have tabulated in various ways for my own study, and having no special theory to substantiate, I believe they are unbiassed records.

Hippocrates called the disease a peripneumonia and recognized that the pleura was always involved. In fact, he only applied pleurisy to an affection of the costal pleura. His writings are full of good observations on symptomatology for the present day, though his etiology is not up to 1890. For instance, one cause: "An inflammation of the lungs happens chiefly from drinking of wine, and great feeding upon codfish and eels; for these abound with a fat or oil very inimical to human nature." These excesses are no doubt predisposing causes. This learned author remarks that pneumonia and pleurisy do not occur under puberty, because there is less firmness of blood-vessels than in the adult. Probably he was not interested in practice of pediatrics.

Boerhaave[1] goes into lengthy discussion on the two varieties due to congestion, in the one case of pulmonary arteries, in the other to congestion in the bronchial arteries. A cause for this congestion he finds in "irritation of whatever exhales from plants and animals, whether living or dissolved by putrefaction after death . . . all fluctuates in the air."[2] Here he was not far from the theory of infection by germs.

A climate liable to sudden variations of temperature and moisture favors pneumonia. Huss[3] found in Stockholm that March, April, May, and June furnished forty-nine per cent. of cases; July, August, September, October, twenty-one per cent., and that November, December, January, and February gave thirty per cent.

Hippocrates found the robust usually attacked.

Grissolle found that half his rachitic patients had pneumonia. Scrofulous subjects are often attacked.[4]

The croupous variety is usually idiopathic, though of frequent occurrence in scarlatina, variola, rheumatism, and endocarditis.

The catarrhal is rarely, if ever idiopathic, and usually follows bronchitis and pulmonary collapse. It frequently occurs in measles, pertussis, phthisis or any diseases where a catarrhal condition exists in the lungs, or feeble respiration allows air-cells to be filled or collapsed. Typhoid or other fevers, keeping the patient long in bed, predispose to it; 65 cases in 167 of measles. Cited by Rillet and Barthez.

Of Gunsburg's 5,000 cases thirteen per cent. were under sixteen years of age.[5] Ziemssen speaks of 186 cases of primary croupous pneumonia in children, 117 of them under six years of age, 69 in next ten. He does not regard it as a rare affection. Reynolds says, "Pneumonia *is a very frequent* disease of early life."[6] The ages of my croupous cases were as follows: Under one year, 3; between one and two years, 9; between two and three years, 6; between three and four years, 3; under five years, 2; under six years, 4; none at seven years; at eight, nine, and ten years, each 1 case. Thus it will be seen the majority of cases occurred at two years, next at three years. After six years the croupous variety seemed to be uncommon. The youngest of these cases was three months old, and is the one mentioned later as having thrush.

Of 91 cases reported by Ziemssen, 41 were boys, 50 girls. These were all under four years. Of my 100, boys numbered 42, girls 58.

One attack does not afford immunity from another, though repeated attacks are not very common. Thirty-one of West's 78 cases had had a previous attack, while but 19 of Ziemssen's 201 cases were so blessed. One of my own cases, a girl, six years of age, had three attacks. I do not count it strange to be told a patient has been through two or three sieges, but rarely credit the statement unless I question very carefully about the attacks.

[1] Read before the Section on Pediatrics in the Academy of Medicine, October 9, 1890.

[1] Aphorisms, vol. viii., p. 215.
[2] Loc. cit., 220.
[3] Quoted by Reynolds, p. 155.
[4] Reynolds' System, p. 156.
[5] Reynolds' System, p. 156.
[6] Page 155. Italics are mine.

Intra-uterine pneumonia is likely to be syphilitic (Reynolds).

Sarjous [1] reports a woman very ill with pneumonia who gave birth to a child with the same. It died in five days, and was found to have, in addition, double suppurative pleurisy, pericarditis, and cerebro-spinal meningitis.

The actual cause has been given as "taking cold," exposure to strong wind irritating the lungs, irritation of many kinds, due to increase of fibrin in the blood, due to poison of unexcreted matters in blood, or associated with blood-poisoning from various germ diseases, lastly as due to a special germ.

The weight of evidence now is that inflammation of the lung is a specific infectious disease due to a micrococcus, *e.g.*, micrococcus Pasteuri, or the pneumococcus of Friedländer.[2]

Drs. Prudden and Northrup carefully studied 17 fatal cases of pneumonia following diphtheria, and concluded that the inflammation was due to breathing in quantities of the diphtheria streptococci.[3]

Exposure to cold when heated, residence in damp, badly-ventilated apartments, and general unsanitary conditions, favor it, for these are the conditions under which the infectious germs multiply and flourish.

Whether contagious as well as infectious is still doubtful.

The changes in the lung are usually divided into three stages, viz., engorgement, red hepatization, and gray hepatization; resolution or purulent infiltration might be added. These stages follow each other, or "may all coexist," [4] this being peculiar to infantile pneumonia.

In the catarrhal variety the stages are less well marked. Pulmonary collapse usually occurs, then hepatization, which as it softens may be termed gray hepatization.

Although it is said [5] that the lobular variety seldom occurs over two years of age, twenty-five per cent. of my cases were over two years and under ten.

Stokes speaks of a stage prior to engorgement, viz., arterial injection, which may give harsh breathing, high temperature, and subside rapidly. I believe I have seen several such. At all events, I have seen cases that answer the description and in which I made a diagnosis of beginning pneumonia. After a dose of antifebrin and a profuse sweating they recovered in a day or two. If there is such a thing as being "threatened with pneumonia," or "aborting" the disease, these cases must be examples. No such are included in my hundred cases.

The appearance of the lung is familiar to all. In the first stage it crepitates, is slightly heavier than normal, and the cut surface shows an undue amount of blood present.

In the second stage the lung is solid, mottled in color, does not crepitate, does not pit easily on pressure and being non-aërated it sinks immediately in water. Its cut surface is not smooth, but presents a granular appearance from the fibrinous masses that project from each air-cell. This fibrinous or croupous material was thought by Virchow to be derived from the blood-plasma, though now most observers agree with Cohnheim that the white blood-corpuscles play an important part and that there is also new-cell production.

The granular condition is less marked in children and the aged than in adults generally (Virchow).

Œdema surrounds the solid portions in lobular pneumonia and compensatory emphysema is found in the opposite lung in the croupous variety. The pneumonia of childhood differs from that of adults in that there are all grades and combinations of the two forms. Bronchitis, more or less extensive, usually prevails.

The brain is often congested and tubercles are occasionally found in tubercular subjects. The kidneys are congested and cloudy swelling may be found.

[1] American Journal of the Medical Sciences, 1890.
[2] See Sternberg, New York Medical Journal, February 16, 1889.
[3] American Journal of the Medical Sciences, June, 1889.
[4] Meigs and Pepper, 161. [5] Vogel, p. 292.

Rillet and Barthez speak of hemorrhage from stomach and bowels (Reynolds), though this cannot be common. The solidified lung may be distinguished from atelectasis by its paler color, absence of crepitation, and by absence of pleuritic involvement when near the surface.

The lobular form follows bronchitis usually and is symmetrically distributed. Several spots may be found in each lung. This is the form so common in children during dentition or complicating gastro-intestinal catarrh.

Fifty-six of my cases were of this variety. Those secondary to bronchitis I have not specially noted. Of those occurring as a complication, nine followed measles, eight followed pertussis and one followed diphtheria.

One of those following measles had pertussis at the same time. He had both lungs extensively involved and yet, in spite of lack of care and many adverse conditions, he finally recovered.

Of the croupous cases there were thirty. Of this number five were secondary to other diseases, as follows: To scarlatina two, to pertussis one, to thrush one, and to diarrhœa one. Of these cases all recovered. The total secondary cases were twenty-four, of whom ten died. The ten were all of the catarrhal variety.

It is generally believed that the croupous pneumonia chooses the right side oftenest. Meigs and Pepper say the lower lobe, but Vogel thinks this a mistake of normal for abnormal, as the right side respiratory sounds are always most distinct. Grissolle claims that the right upper lobe is affected two and one-half times to the left once. Of my own cases fourteen occurred on the left and thirteen on the right side. The left upper lobe two, and left lower six times. Right side, upper lobe five, middle lobe one, lower lobe three times. Entire left lung six, and entire right lung four times.

The right middle lobe is said by Walshe [1] to be inflamed in endocarditis or blood-poisoning. Neither complicated the case mentioned.

As we first come before the pneumonia patient we observe his rapid respiration. Not necessarily dyspnœa, for this is caused by non-aëration of the blood; a child may, by breathing fifty times a minute, keep his blood oxygenated, but if his heart fails dyspnœa results and the little patient becomes cyanotic, the lips blue, fingers and toes dark and cold.

The breathing is catching in character in the croupous form, owing to the pain caused in the inflamed pleura.

Grisolle thinks the cyanosis of the face may be due to the pressure by hepatized lung. The ratio of inspiration and expiration are reversed, and are nearly equal in time. The ratio between pulse and breathing is also altered. In place of 4 to 1 we have 2 to 1—*e.g.*, in a case aged two and one-half years, with measles, who on the fifth day had a respiration of 102 to minute and a pulse of 181. This was a fatal case of double lobular variety.

The *character* of the pulse is more important than its frequency, and relatively it is more rapid in children than adults. It is sometimes irregular in force, without being an alarming symptom. Should it be intermittent, however, the outlook is grave.

We now listen to the chest, and that without the child making objection. He is too busy with breathing to be annoyed by the examination; his whole attention is on the one object, and in marked cases the alæ nasi dilate, and he "expands his nostrils like a horse upon the course" (Hippocrates). Perhaps he will wince a bit if the examiner's head is pressed too heavily against the chest and increases the pain.

Pain is complained of by older children, sometimes being located about the chest, if the upper part of the lungs be affected, but probably felt in the stomach if the lower lobes are inflamed. Still "it is a disease which has more danger than pain" (Celsus). Broncho-pneumonia is accompanied by labored breathing, but rarely pain.

[1] Quoted by Reynolds, p. 196.

The skin is usually hot, though a little moist, especially about the head. Profuse or early sweating are forecasts of evil, for they indicate prostration. Profuse sweating ending in quiet sleep at the crisis means recovery.

The face is flushed, Gubler says most so on side of inflammation, but Rillet and Barthez, with most others, say the flush is most bright on the opposite side. Herpes appears about the mouth and nose, and is regarded by the laity as a good sign, as "the fever is said to be breaking out." It is uncommon in children. I find it specially noted in but one case, nine years old, but feel sure I have seen it oftener. This boy also had rusty sputum.

The urine is diminished in amount, and contains an increase of urea with diminution of chlorides. Hippocrates considered it a fatal sign if the urine became pale in color before the fourth day—*i.e.*, before the crisis was passed.[1] Parks thinks the great increase in urea may be the cause of the diarrhœa so often seen.

A mild diarrhœa may be beneficial, as it is a natural method of getting the expectoration out of the body, it being well known that infants and young children will not spit out what comes from the lungs. Infants often vomit it, and it may then appear reddish or prune juice in character.

A profuse diarrhœa, or persistent, early in the disease I regard as a bad prognostic. The appetite is impaired, and many cases begin with vomiting. One-half do so according to Rillet and Barthez. Not so common with my cases. The tongue is coated, often thickly, but we do not now trace any direct relation between the character of the tongue and parts of lungs affected, as did some older writers.[2]

Headache, restlessness, and even delirium are common early in the disease, but cause no alarm. Late delirium is grave. Convulsions are not uncommon as an initial symptom in the croupous form, occasionally also in course of any other disease to announce the catarrhal form. These nervous symptoms are due to cerebral congestion and seem to bear a relation to amount of lung involved.

The cerebral symptoms appear to be most common when the apices are affected and may in fact overshadow the symptoms referable to the lungs. This has given occasion to some writers to speak of a class of "cerebral pneumonia" cases (Rillet and Barthez). Latent pneumonia is merely overlooked pneumonia, lost sight of because cerebral or digestive symptoms predominate.

Temperature, as a rule, is much higher in croupous than catarrhal and usually ends in the former by crisis. I find among my cases one of broncho-pneumonia, aged thirteen months, with temperature 104.5° F. on second day. Another four and one-half years old, temperature 104.4° F. on second day. This case was a month in convalescence. A case of the lobar form, aged fifteen months, with temperature 105° F. on second day. As against these, a case (not of the 100), aged thirteen, with temperature of 102.3° F. on second day. These examples go to show that the temperature varies markedly in individual cases. The crisis usually occurs on about the seventh day in croupous, there is no crisis in catarrhal pneumonia. My cases nearly all terminate by lysis—croupous as well as catarrhal.

In the beginning pneumonia may be mistaken for one of the fevers or indigestion. If the pain is marked, pleurisy may be mistaken for it. It is often next to impossible to distinguish, as we know there is bound to be at least a little roughening of the pleura over the solidified lung. Grisolle is authority for the statement that fifteen per cent. of cases do have effusion into the pleura.

The crepitant râle may readily be mistaken for pleuritic friction, and I believe there are few cases where the two diseases are very distinct from each other.

Cough is dry and irritating in early stages, but later becomes moist and soft. This may aid in diagnosis from pleurisy, as the cough would cease entirely during the stage of effusion in the latter. Doubtless rusty sputa occurs in children nearly as often as in adults, but we rarely see it, for reason given above. The young child swallows what comes up in the throat. "Rusty" or "prune-juice" expectoration was noted in three of my cases, aged three and one-half, nine, and two years respectively. The nine-year-old also had herpes and began with a chill. In all respects behaved like typical pneumonia of adults.

"All diseases must terminate in one of three ways, viz., in health, death, or another disease" (Boerhaave). Most croupous cases terminate by the first, *i.e.*, health. Many catarrhal cases died, the percentage varying with diseases which they complicated. Those who die succumb to heart failure, to general exhaustion, or diarrhœa, some may perish of convulsions or delirium and a few to failure of kidney function. Some die in coma. Croupous may terminate in abscess or gangrene. I recall two cases of abscess in lung, but not any such in this one hundred. Both made perfect recoveries. Dilated bronchi which simulate cavities are often seen, especially in cases which had pertussis. Scrofulous and rachitic patients make slow recoveries and many such become tuberculous.

"Double pneumonia is more liable to terminate in sudden death than in suppuration and resolution."[1] Very fat children have been thought bad subjects. I regard the prognosis grave in these children having valvular disease of the heart, as they often have a hypostatic form of pneumonia. Very weak infants, in whom the pneumonia begins by simple collapse without bronchitis, rarely do well.

Treatment has been heroic, palliative, and expectant. Blood-letting was formerly practised, even in cases of children where the pneumonia occurred with measles or scarlatina. Then came tartar emetic treatment, sometimes alone, again in conjunction with venesection. Under this regime Dietl's mortality was twenty-two per cent., while Wunderlich with bleeding obtained a mortality of 6.38 per cent. Such a difference in results makes us question the cases somewhat.

Among drugs, mercury, potash, turpentine, digitalis, chloroform, aconiti, veratria, and the alkalies each have champions. Cold, in form of bath, sponging, pack, and compress, or ice-bag, each have much in their favor.

Although Dietl had a mortality of twenty per cent. with bleeding, Huss gives only 11.54 per cent. for same treatment. Dietl with expectant treatment gives 7.4 per cent. of deaths. Huss, with no bleeding treatment, gives 10.21 per cent. of deaths. The latter's statistics are from hospital records of sixteen years. Laennec had a mortality of but three per cent. by tartar emetic. Now the two methods most popular are expectant and antipyretic. Under the routine treatment Ziemssen's mortality was 25.2 per cent., by antipyretic methods he reduced it to 16.5 per cent. By my table the mortality was but sixteen per cent. for all kinds of cases, complicated and idiopathic and without selection. Yet it is three times greater than Laennec had.

Antipyretic treatment lessens fever largely by depressing the heart, and therefore Ziemssen says that it is a *sine qua non* of this treatment that the patient should have wine suitable to age, etc. Why give a depressant and stimulant at the same time? Valleix reported[2] 127 deaths in lobular pneumonia of 128 newly born children in Parisian Foundling Asylum, while Rillet and Barthez had a hospital mortality of one in seven. West gave, in 1843, 13.6 per cent. as usual mortality. Meigs and Pepper, 1879, for preceding ten years found it to be 5.44 per cent. under fifteen years of age. Wide difference again in figures.

The child with pneumonia dies from want of oxygen and from excess of CO_2. Can we increase one and diminish the other without expense of force to the sufferer?

[1] Quoted by Boerhaave, vol. viii., § 830.
[2] Hippocrates.

[1] Boerhaave, vol. viii., § 835.
[2] Vogel: Diseases of Children, p. 295.

Acting upon the belief that the disease cannot be aborted, any more than typhoid fever can, I have tried by common sense treatment to make the little patients comfortable and to aid a speedy and favorable termination of the disease.

In cases of marked headache and delirium at the onset one or two doses of antifibrin have proved beneficial. If the temperature has not been more than 103° F., and no symptom has been unduly prominent, I administer small doses of aconite or alkalies. In the croupous form pain is usually present and may be relieved by hot poultices on the back. If the attendants are careless poultices should not be ordered. When the inflammation is most marked anteriorly a cold compress is more easily applied and though unpleasant for a moment is very agreeable afterward. It is not so heavy as flax-seed nor so uncleanly. The labor of lifting a heavy poultice sixty times a minute is not a health-producing exercise. As a rule poultices are not helpful for a very long time in lobular pneumonia. Better rub the chest well with a slightly stimulating embrocation and put on sheet wool and an oiled-silk jacket. Flannel should be worn throughout.

At the time of crisis digitalis and an abundance of concentrated food should be given. In adults alcohol is usually given, as "it is not only a whip to the heart, but oats besides, because it supplies the organ with oxygen, without which muscular work is impossible."[1] In children the state of nutrition and of glandular activity is different and I believe they will take and assimilate meat extracts better without than with alcohol. We know that digestion is very imperfect in the presence of alcohol, so that the patient must live on that mainly if he takes much of it. Digitalis or muriate of ammonia will physiologically whip up the flagging heart, and digestion of peptonized milk or meat extracts go on at the same time.

The diarrhœa may be checked by a Dover's powder better than by alkalies. The cough may be lessened by those drugs that are volatile and pass readily out through the lung, and also by vascular depressants which tend to keep mucous membranes moist. When pneumonia is resolving cough should be favored, not checked. For this purpose administer ammonia or give an occasional emetic.

Of the 100 cases, 84 recovered. Of the 17 fatal cases 3 were of idiopathic lobar form, ages one and a half years, two years, and six years. In the two last mentioned, the pneumonia was double. The boy, aged six, died on the twentieth day of his illness, of diarrhœa.

Three of those who died of catarrhal pneumonia were idiopathic cases; their ages, ten months, fourteen months, and four months. The latter a hand-fed baby. Five died of lobular pneumonia following rubeola; ages four, five, two and a half, two and a half years, and one nine months. One, two and a half years of age, died in convulsions.

Five died of lobular pneumonia secondary to pertussis. Their ages were twenty months, twenty-two months, two years, two years, and ten months. It will be observed that the coexistence of these two diseases is very fatal to children of two years of age or younger; nevertheless, one aged two years and one aged seven months did recover.

One case of pneumonia and pertussis was saved by a dose of morphine at night, securing it a little rest. She had taken bromide of potash all the time for the pertussis. Improvement began from the first dose of morphia.

My conclusions are: The results of treatment are not so unpromising in crowded unsanitary quarters as would be expected. Common-sense or palliative treatment is best. Alcohol is not needed in pneumonia of children. Antipyretics weaken a child more in proportion than an adult. Moderate bathing or sponging of surface makes the patient comfortable, and in so far aids recovery. Many mild cases become severe and fatal in spite of treatment, and no cases are so bad that the physician should not do his utmost to save. Many severe cases get well with little care and less medicine.

I come at last to Ziemssen's conclusion, "that nature cures, and the only duty of the physician is to maintain life until this cure is effected."

136 East Eighteenth Street.

[1] Ziemssen, p. 175.

SOME OBJECTIONS TO COCAINE IN GENITO-URINARY SURGERY.[1]

By JOSEPH B. BISSELL, M.D.,

Attending Surgeon Bellevue Hospital, Outdoor Department.

Cocaine is of almost universal application in such operations as circumcisions, internal urethrotomies, meatotomies, etc., and is usually attended with complete success as an anæsthetic. There are, however, some disadvantages following the use of the drug, and I wish to briefly relate a few of them.

Since cocaine has been in use it is not uncommon to find, after an internal urethrotomy, one or two pieces of mucous membrane clinging to the urethrotome. They are usually found in the angle between the dilating-bars and the short cross-bars.

In these operations the Otis urethrotome, an instrument which is very nearly perfect, is always used, and used with the utmost care. After the cutting, the bars are only closed sufficiently to admit of its withdrawal. In about one-quarter of all the cases there was found caught in the instrument one or more pieces of membrane. In some cases the portion torn out was of considerable size. In a recent operation it was over half an inch long and nearly a quarter of an inch at its widest point.

Where ether is used in the internal operation with perineal section this accident is not noticed. In order to be still more certain that the cocaine caused the trouble, I made applications of cocaine to normal urethræ, and into urethræ with large calibre strictures, as if about to perform internal urethrotomy, waited the usual time for it to absorb, and then, through the endoscope, observed the condition of the urethral wall. There was a little more difficulty than was natural in entering the proper-sized tube. The mucous membrane was blue and congested, and pointed into the opening of the tube. In the pathological urethræ these appearances were most marked.

This narrowing of the canal and fulness of the mucous membrane would account for the frequency with which the latter is caught and torn away by the smallest closing of the bars of the instrument. Future stricture or permanent contraction of the penis will be a very natural result of this laceration. Hemorrhage after the operation is another disadvantage of cocaine. Bleeding during the first night is more likely to occur after cocaine anæsthesia than after ether or chloroform, as can be observed in cases of external section. This hemorrhage is not of much importance in hospitals, or where a competent nurse is in charge; but when the care of the patient is left, as it often has to be, to a lay friend, it may be a very serious matter.

In circumcision cocaine rarely gives trouble during the operation. If the solution is injected too close to the line of the cut, the swelling it causes may obscure the edges and leave a ragged and irregular line of union.

The extravasation of blood, which is almost unavoidable where the cocaine is injected into the subcutaneous tissue, is objectionable. In some cases superficial sloughing of localized points may result from this extravasation and make the healing slow and troublesome.

A very serious objection to cocaine in circumcisions is in children or in very nervous patients. The sight of the instruments, the dressings, the pain of the hypodermic punctures, and feeling and hearing the cutting and sewing up of the wound will cause severe shock in a delicate and

[1] Read before the Charity Hospital Alumni Association, October 14, 1890.

sensitive child, and may frighten him into hysterics or even convulsions.

Chloroform is so easily given, and so harmless in children under ten years, that it or ether ought to be used in preference. Idiosyncrasy may account for certain cases in which the drug, however skilfully applied, does not completely anæsthetize.

Other cases occur in which the tissues, owing to pathological changes, do not absorb the solution rapidly enough, or sufficiently, in the quantity it is safe to use, to cause complete freedom from pain.

Cocaine poisoning is always possible, even with moderate quantities of the drug.

Some people are much more liable to cocaine intoxication than others. One of my patients, whom I circumcised for an old inflammatory induration of the foreskin, developed serious constitutional symptoms; but after waiting over half an hour I operated without any local anæsthesia whatever. The patient was a man, twenty-eight years of age, and of good habits. I injected forty minims of a six-per-cent. solution. During the operation, which lasted about three-quarters of an hour, he complained of dizziness, inability to see, and nausea. His pulse was 100 to 120, full and bounding. After the operation he went soundly to sleep, and, though easily awakened, he was unable to walk for several hours. He recovered completely in about six hours after the operation.

ELECTROLYTIC AND OTHER NEW USES OF STORAGE ELECTRICITY.

By ROBERT L. WATSON, M.D.,

NEW YORK.

As far as I am aware, storage electricity has not been used for medical purposes, except for cauterization, running motors, reducing tonsils, etc. But in my experiments with this form of electricity, for the past few months, I have found it may be used for many other purposes to which dynamic electricity has been applied. I have used the ordinary batteries charged by Ford & Co., but if one is on the line of the Edison underground system he may charge his own. The capacity of my batteries is 100 ampère hours, each with a potential of about two and one-quarter volts, which is the voltage of all storage cells, of whatever size. For convenience I placed them in an ordinary music cabinet. To complete the outfit, I removed the induction coil from my faradic battery and glued it to the cabinet, using it as with the ordinary battery. This gave me a complete electro-medical outfit for all purposes, at a comparatively small outlay. Besides employing my battery as a cautery, a use long since familiar to the profession, I have been able to employ it with uniform success:

1. As a galvanic current. In order to make this use of it, however, one must have at least three cells or six volts, and the sponges must be moistened with water. Three cells are necessary if the current is to be felt; but in order to produce positive results, it is not always necessary to use so many cells, and I personally have no doubt that a one-cell 10 ampère hour battery would give good results, although this current cannot be felt. I have observed in my experiments that when I puncture the skin of the leg with one needle and that of the arm with another, on suddenly closing the circuit a severe shock is felt, even when only one small storage cell is used; but when the punctures are simply into, but not through, the cuticle, no sensation is appreciated. Erb says in his work that single-cell galvanic batteries do good in paresis, but require time.

2. As a faradic current. In this case the poles of the storage cells must be connected with the induction coil, which, of course, changes the constant current to the faradic. If the armature of the induction coil does not vibrate, there is too much current, and a rheostat will have to be introduced. This will remedy the difficulty and allow the storage cell to be used with any coil, of whatever resistance or size. But the most satisfactory use is:

3. In electrolysis applicable in the removal of nævi, fibrous growths, and other excrescences. My method is to puncture just beneath the skin, at the base of the growth, with two common needles as electrodes, one on either side. The current is then allowed to pass about five minutes, or until the growth undergoes such change as will indicate to the experienced operator that the current has produced its proper effect.

In seven or eight days with the smaller growths, and proportionately longer time for the larger ones, the excrescence drops off, leaving an open sore which rapidly heals. If the first application should not be successful, a second one may be made a few days after. In the second application it is advisable to let the current run at right angles to the first one. It is curious, but nevertheless a fact, that when a milliampère meter was introduced in the circuit with the nævus, no current was indicated whatever, no matter how close the needles came together (if they absolutely touch the points will become hot and cauterize). The meter indicated nothing, yet there must have been a current, for the nævus disappeared. No doubt a capillary electro-meter would indicate a current.

In operating with this storage, or low-tension, current, one must be sure to have his wires large enough to carry the full current, otherwise no appreciable results will be obtained. A good way of ascertaining whether the wires are of proper size is to put the cautery in the circuit first, and if it works the electrodes are undoubtedly all right.

The use of this form of electricity causes no pain and leaves no appreciable cicatrix, but does have an electrolytic or catalytic effect. Amory, in his work, speaks of the successful use of the galvanic current in reducing moles. But he obtained his results only by the use of many cells, while one cell of a storage battery of the same size as one of his will do the same work. But it has a larger ampèrage, and this proves to my mind that what is required in electrolysis is quantity of electricity, not voltage or tension.

Erb speaks of the electrolytic use of the galvanic, faradic, and magneto-electric induction. But I know of no literature on such use of the storage current. He further says the galvanic current affects muscles, nerves, and deep organs because it is deeper, and therefore more penetrating, while the faradic (the storage) is more superficial in its action. Amory also says that the weaker currents should be used in connection with the strong in cancer, because the weaker penetrates tissue which the stronger does not.

Since the storage battery gives a weak current, it should be useful in galvanization, according to both Erb and Amory. Moreover, my observations seem to bear out the opinion of Gröh, given in Amory's work, that a battery arranged for heating would be the best for electrolysis.

Finally, from experiments I am now conducting, I have no doubt but that storage electricity will find its fifth use in antisepsis.

We see, then, that storage electricity can be used not alone for purposes of cauterization, but for galvanic, faradic, electrolytic, and probably for antiseptic purposes. And what is required in electrolysis is not voltage, but quantity of electricity and time.

CASE I.—J. D. M——, twenty-nine years of age. Mole on forehead since birth. Passed 100 ampères five minutes, with needles, just beneath skin; it became inflamed and changed shape. Did not disappear A week later operated again, with same current applied twice at right angles to each other. In three days mole fell out like a kernel of corn from a cob. In about two weeks wound was healed up and left no cicatrix.

Case II.—Captain B——, sixty-nine years of age. September 9th, has had a small fibrous tumor on inside of left cheek, near Steno's duct, due to sharp edge of tooth. Is afraid of cancer. Passed a current of 100 ampères three minutes; it swelled up, became white, and, finally red. Then passed 4 volts and 200 ampères for three minutes at right angles to the other current, when a waxy-looking material poured out from one pole, and blood from the other. No pain.

September 22d.—Gone down to about one-half size. Somewhat sore. Passed current again.

October 1st.—Gone down about one half more. Says it is too slow, therefore took rest off with electric cautery.

Have had several other similar cases, but these will suffice for an illustration.

Case III.—G. A. W——. Ten years ago had a pimple removed from his face which was called a cancer. For the past year he has had an indurated sore with a discharge of pus. Diagnosticated by a New York specialist as rodent ulcer. Rather painful, and very annoying.

July 25th.—Electrolyzed with two steel needles for ten minutes; current, 2 volts, 10 ampère hours.

August 26th.—Seems about same. Passed current again. Pain ceased when I got through.

September 8th.—Seems to be larger; troublesome as before. Passed current of 10 ampères twice for ten minutes each.

October 1st.—I hear from the family physician that it is better, and seems to be taking on a healthy action. This patient had nervous prostration very severely, from which he has not yet recovered.

PHLEBOTOMY AS ONE OF THE MEANS IN THE TREATMENT OF INSOLATION, WITH A REPORT OF FIVE CASES.

By H. A. HAUBOLD, M.D.,

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Most text-books divide all cases of insolation into two kinds, namely the sthenic form and the asthenic form. All the cases herein described were of the sthenic variety, and although the symptomatology has been most accurately described, a recital of the phenomena observed in these cases is pardonable, because of its important bearing on the rationale of the means employed. The usual history is that the patient was exposed to great heat (not necessarily solar heat), experienced a feeling of giddiness, and soon became unconscious. The face is dusky or flushed, eyes either strongly rotated upward, or in a condition of violent nystagmus. Conjunctivæ congested. Respiration is slow and stertorous. Muscular rigidity is well marked. This rigidity in some cases amounts to opisthotonos, in others the contractions are sufficiently intermittent to suggest an irritative cerebral lesion. Arterial pulsation rapid, full, and bounding, plainly visible in carotid and temporal arteries.

Cases of this kind present most striking conditions when seen early in the course of the attack, and are often mistaken for epileptic or apoplectic seizures. The temperature is a very important factor in this disease. It rises often to 108° to 109° F., and even 110° F. is not an uncommon event. A temperature of 110° F. is supposed to be positively fatal, or, to quote a well-known lecturer: "When a temperature rises to 108° or 109° F., entire recovery never takes place." When one realizes that an individual, in possession of physical vigor, may, suddenly and almost without the slightest premonition, be thus stricken, I think the importance of this subject is sufficiently emphasized.

Case I.—Admitted June 26, 1890. J. K——, blacksmith, forty-four years of age, was found unconscious on the corner of Varick and Downing Streets. He had been working at his forge all day, and fell in the street while on his way home. He had not been drinking on admission. Face flushed very deeply. Pupils contracted; skin dry and hot. Respiration slightly stertorous and increased in frequency. He could be aroused with difficulty. Temperature, 107° F. in rectum. Pulse, 145, full and bounding. Blood to the extent of twenty ounces was drawn from the left arm, a compress placed over the wound and the extremity bandaged from the fingers up. The patient was now placed in cold bath (60° F.) for fifteen minutes, at the expiration of which time he was placed between wet sheets for fifteen minutes longer. At the end of the thirty minutes thus employed his temperature had fallen to 101° F.; pulse, to 110. Ten grains of antifebrin in one ounce of whiskey was now administered, and this dose repeated in one hour. Two hours after admission his temperature was 98½° F. in rectum. Pulse, 88. Mind perfectly clear. There were no sequelæ apparent, and he was discharged cured in three days. I saw him one month after the date of his discharge, he was then engaged with his daily labor, as he has been since the day following his discharge.

Case II.—Admitted July 30, 1890. M. N——, aged thirty-seven, laborer. Patient found unconscious on Thirty-sixth Street, between Fifth and Sixth Avenues. No history could be obtained on admission. Patient comatose. Temperature, 108½° F. in rectum. Pulse, 140, full and bounding. Surface dusky, and breathing stertorous. Twenty ounces of blood drawn. Patient put in cold bath. After fifteen minutes in the bath he urinated and defecated involuntarily; his pulse, 120, but feeble and intermittent. Temperature, 103° F. Administered tinct. digitalis, ℥ xx., and brandy, one ounce, hypodermically. He was then placed in wet pack and left there for thirty minutes. Consciousness returned while in pack. At the end of one hour from time of admission his temperature had fallen to 101° F., and his mind was perfectly clear. His temperature varied between 101° and 100°, in the course of the next few days, during which time he took, morning and evening:

℞ Quin. sulph. ..... gr. x.;

and three times daily,

℞ Kali iodid .... gr. xv.
Kali bromid..... gr. xx.

There were no untoward symptoms at the end of a week, and he was discharged August 9th, cured.

Case III.—M. M. H——, aged thirty years, admitted August 1, 1890; bricklayer. Was working on the new wing to St. Vincent's Hospital, exposed to the full glare of the sun. He had complained of slight vertigo and some indefinite disturbance of vision before the attack, and at 11:30 o'clock he suddenly fell down, unconscious. He was at once conveyed into the hospital. On admission, patient presented substantially the same symptoms as recorded above. The muscular rigidity amounted to opisthotonos. Temperature, 109½° F. Pulse, 150, full and hard. He was placed in the cold bath at once, and sixteen ounces of blood drawn from the arm. Temperature fell to 102° F. in thirty-five minutes. Then patient was put in wet pack for thirty minutes longer, and liq. morp. Mag. administered for his restlessness. The evening of the day of admission his temperature was 101° F. Pulse, 124. Ordered quin. sulph., gr. x., A.M. and P.M., and spirits frumenti, ℥ vi., in twenty-four hours. On day following his temperature was 100½° F.; pulse, 68. After this the temperature gradually fell and became normal. On evening of fifth day it rose to 100° F., but was normal, and remained so until his discharge, one week later. No sequelæ followed that were then apparent.

Case IV.—E. B——, aged fifty-four, coal heaver. Admitted August 1, 1890. While at work at foot of West Eleventh Street he suddenly fell in a fit and became unconscious. Was conveyed to hospital by ambulance. On admission, patient comatose. Had clonic spasm which simulated status epilepticus. In this case temper-

ature rose to 110½° F.; pulse, 150. Patient put in cold bath and eighteen ounces of blood drawn. His temperature fell about 1° F. every eight minutes while in the bath, and when it had fallen to 103° F. he was put in wet pack. He became conscious while in wet pack, but his pulse was feeble, beating 116 per minute. Brandy and digitalis given hypodermically. His temperature fell to 102° F. that evening. Ordered quin. sulph., gr. x., twice daily; spirits frumenti, ℥ viij. in twenty-four hours. Next morning his temperature was 103½° F., but fell to 100° in evening. Then it became normal (pulse, 80) and remained so until his discharge, ten days later. No sequelæ.

Case V.—J. O'B——, aged thirty-two, laborer. Admitted August 4, 1890. Patient brought to hospital in unconscious condition. No history. Muscular rigidity, coma, etc., well marked. Temperature, 109½° F.; pulse, 140. Patient put in cold bath and bled to amount of sixteen ounces. In twenty minutes temperature fell to 103° F., and after fifteen minutes in the wet pack it was 100½° F. Next morning temperature was normal; pulse, 78. He made an uninterrupted recovery and was discharged, cured, at the end of a week. No sequelæ.

Do not these cases illustrate the efficacy of bleeding? An important objection to an affirmative answer is, that the accessory means employed might have been sufficient to produce the beneficial effects. But inasmuch as they have failed to do so heretofore, no unusual claims can be made for them in this instance. Moreover, such immediate impression as bleeding produced in these cases cannot well be attributed to the bath alone. Again, the administration of antifebrin has not been followed by such immediate effects in previous similar cases treated in this institution.

The importance of immediate radical treatment is shown in a case that came under observation during the treatment of the cases recorded above. This patient was in collapse when first seen, and died so soon after admission that no therapeutic measures could be employed.

The ambulance surgeon is impressed with the necessity of bringing these cases to the hospital as rapidly as possible for treatment. The bath is situated in the hospital-yard, the patient is stripped in the ambulance, and transferred directly to the bath and bled. This point is well illustrated in Case III. This patient was attacked while at work on the hospital building, and was seen within five minutes from the beginning of his attack. Even then he was profoundly comatose. Temperature, 109½° F.; pulse, 150. Thirty five minutes after bleeding his temperature was 102° F. I cannot think of any other antipyretic means that could have acted as promptly and as efficiently as the bleeding did in this case.

In Case I. the patient was not quite comatose. He was bled before any other means were employed, and he became conscious before his arm was finally bandaged.

Case IV. was the most severe one. The temperature was higher than in any of the other cases, being 110½° F. No man, be he ever so robust, can long endure a temperature of 110½° F. Yet this one soon recovered entirely and without any sequelæ.

If a case be advanced to collapse, depressing measures are contra-indicated; but before collapse, and during the early stage of insolation, bleeding is certainly a warrantable procedure, at least if the effects of the measure in these cases have been properly estimated.

Heavy Bedclothes Objectionable.—A good many people spoil the effect of a good night's rest by the ridiculously heavy bedclothes they use. Old-fashioned cotton quilts, or modern Marsala ones, are very heavy and of no use, as a thin covering to protect blankets from the dirt is all that is really necessary. Bedclothes should be like body clothing, light and warm. Many a bad sleeper would do well to see whether his coverings are not at the bottom of his restless nights.—*Hospital.*

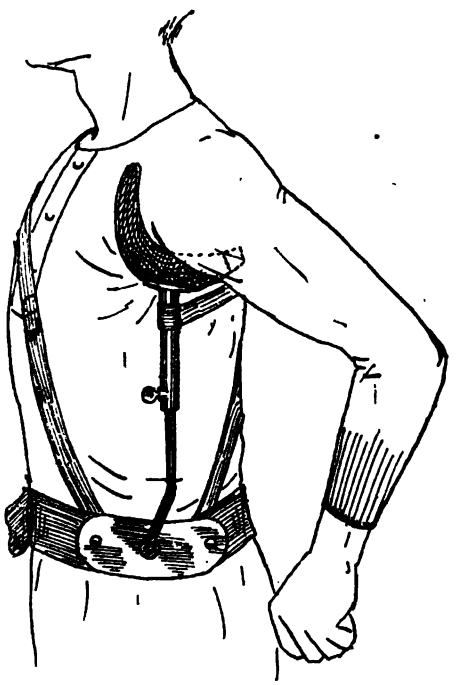
A NEW APPLIANCE FOR THE TREATMENT OF FRACTURE OF THE CLAVICLE.

By W. H. CURTIS, M.D.,

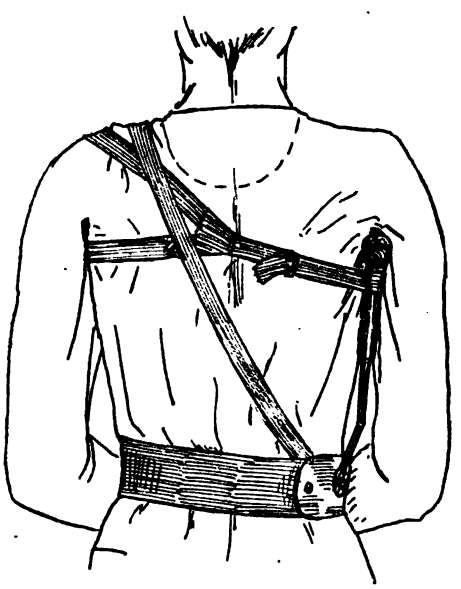
WILMINGTON, ILL.

I herewith submit to the medical profession an appliance for the treatment of fracture of the clavicle, which in my hands has given better satisfaction than any other device that I have ever used.

The accompanying cuts illustrate its construction and application sufficiently well without an extended description.



The crutch-head is of wood, mounted on a round extension-bar of steel, and is controlled by a set screw, which renders it applicable to either side. The lower end of the extension-bar is attached to the waistband by a pivot-joint, and the proper elevation of the injured shoulder is maintained by a suspensory strap passing over the opposite shoulder.



The shoulder is held back by a strap from the upper end of the extension-bar passing around the opposite shoulder, as shown in the cut, thus doing away with the application of any pressure of dressings upon the injured side.

In the cut, the arm is carried back for the purpose of showing the method of applying the instrument.

I am in the habit of confining the arm at first by a sling, or simply pinning the sleeve to the clothing.

The advantages claimed are, that it fulfils the indications, keeping the shoulder up and back, with the utmost possible comfort. It does away with the discomfort and futility of adhesive straps, may be applied outside the clothing if desired, and after partial union has taken place limited use of the arm may be permitted. It is light, easy of application, does not slip or get out of place, is not at all uncomfortable to wear, and, in short, does the work.

My last patient was a very energetic child of two and one-half years, who wore the appliance for three weeks without a word of protest, and with a perfect result. It may be obtained in two sizes, of Charles Truax & Co., Chicago, Ill.

Clinical Department.

DIPHTHERIA FROM CATS.

By P. C. COLEMAN, M.D.,

COLORADO, TEX.

In a recent editorial in the MEDICAL RECORD it is said: "There seems to be quite strong evidence that there is a natural malady in cats which, when conveyed to man, is diphtheria; also, that there is a disease occurring in cows which gives rise to this peculiar cat-diphtheria when the milk of the infected cow is drank by cats."

After a residence of five years in Western Texas I saw the first case of diphtheria in December, 1888, the case occurring in a child, four years old, and living thirty miles in the country, and in a region so sparsely settled that the nearest neighbor lived six miles away. The child had not been in contact with other children for months, and yet developed a violent case of diphtheria, which came very near being fatal, and which was followed by paralysis six weeks after recovery. The other members of the family contracted the disease from the child.

I was puzzled to account for the origin of this case for a long time. The child lived at an elevation of two thousand feet above the sea, in a dry atmosphere, was almost continuously isolated, far from any source of contagion, and rarely ever saw other children. The father of the child asked me, some time afterward, if children ever contracted diphtheria from cats, and stated that two kittens died from some disease which he believed to be similar to the disease the child suffered from, and that he believed the kittens communicated the disease, as the child nursed them almost constantly, and had often been noticed kissing them. I am confident this case was communicated by the cats. I reported it in full at the time, but could not account for its origin, as the father had not then spoken of the cats being affected.

RARE CASE OF ATRESIA VAGINA.

By R. ELLIS, M.D.,

DANBURY, CONN.

Mrs. - , aged seventeen, first suffered molimen menstruale at sixteen, when she was surprised to find that no discharge appeared, though suffering severe pain. Believing that all would be well in time, she suffered until after her marriage, a few months ago, when she presented herself, complaining of severe menstrual pain, absence of discharge, and inability to satisfactorily worship the hymeneal goddess.

The examination disclosed the vulva of a girl of twelve, with an imperforate hymen of dense connective tissue, which, from its elasticity, could be forced back a distance of three inches; a small speculum, unless firmly held, was ejected with considerable force. No fluctuating sac or uterus could be made out by bimanual examination, though the patient stated that during menstrual pain, usually lasting four or five days, she could feel swellings over the Fallopian tubes.

When seen during her monthly sickness, she suffered so severely as to require hypodermics of morphia, which she confessed she had taken before. At this time no swelling or fluctuating sac could be discovered. An operation was advised in order to more accurately determine her condition The hymen, dense and resisting, was cut through with difficulty, when there was found entire absence of the vagina, the space being filled with spongy areolar tissue; no uterus, sac, or enlarged Fallopian tubes could be made out.

In order to form an artificial vagina, the areolar tissue was cut and torn backward for a distance of three or four inches, when the spongy tissue retracted as deeply as one could insert the index and middle fingers; a glass plug was left *in situ*, and the patient had the satisfaction of possessing a respectable artificial vagina, which, however, is sure to contract somewhat.

From the severe menstrual pain, and from the patient's feelings, it seems probable that she possesses a rudimentary uterus, if any, with normal ovaries and Fallopian tubes; probably her severe pain is due to distended Fallopian tubes resulting from a rudimentary uterus, though neither uterus nor tubes can be made out.

The only relief for her suffering seems to be removal of both ovaries, for where the uterus and vagina do not exist, the case is hopeless unless this is done. In this case ovariotomy will relieve the severe pain and avoid the dangers from ruptured tubes, peritonitis, and pelvic hæmatocele, which may occur at any time.

TREATMENT OF SOFT CHANCRES.

By THEO. G. DAVIS, M.D.,

BRIDGETON, N. J.

Cauterization and curettage are painful and unnecessary. Twice daily the sore is washed with pure warm water, then solution of hydrogen peroxide is dropped upon it until bubbles of gas cease. The sore is then dried with absorbent cotton and dusted with a powder composed as follows:

℞. Bismuth subnit.,
P. cinch. flava ..... āā 3ij.
Calomel..... 3j.
M.

This is painless and odorless, and has proved entirely satisfactory to patients and to myself during the past four years.

EPISPADIAS OF FEMALE URETHRA SITUATED IN A BIFID CLITORIS.

By CLARENDON RUTHERFORD, M.D.,

PROFESSOR OF ANATOMY, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO, ILL.

Recently I was called to deliver a woman who was taken with labor pains while attending the funeral of her husband. The water broke, and she was driven hurriedly home. On being told that no urine had been passed in three days, I attempted to pass a catheter under the clothes, but failing, on inspection I found the meatus situated on the proximal or superior side of the clitoris and in a cleft between its crura. The crura of the clitoris, on its upper surface, were separate, the fibrous septum being deficient. The clitoris was of normal length, and its free extremity was bifid for about one-eighth of an inch. The external opening of the urethra was like a tough or shallow groove between the crura—epispadias. The urethra passed below the symphysis of the pubis. There was no defective development of the pubic bones or adjacent parts.

Progress of Medical Science.

Acute Obstructive Diseases of the Lungs.—To the October number of the *American Journal of the Medical Sciences* Dr. A. H. Smith contributes a paper on this subject. He says that whenever there is obstruction of the pulmonary circulation, the labor of the right heart is necessarily increased. In proportion to its inability to overcome the obstruction there will be an accumulation of blood in the venous system. Excess of blood in the veins implies deficiency in the arteries, and hence this class of affections is characterized by an unequal division of the blood between the venous circulation and the arterial. This condition has extremely important consequences, especially in acute pulmonary affections. In these we study the pulse with the greatest solicitude to judge how the heart, as we say, is supporting the struggle. But the arterial pulse gives no indication of the immediate peril, for it is not the left heart that is bearing the brunt of the battle. The pulse tells its story only at second-hand. It may be small and weak, but it is chiefly because the left heart does not receive enough blood from the lungs to fill its chambers and to distend the arteries. The trouble is not in lack of propelling power so much as in deficiency of blood to be propelled. But if, instead of feeling the radial pulse, we could lay our finger upon the pulmonary artery, we should obtain information vastly more to the point. We should then be able to appreciate the degree of pulmonary obstruction by the fulness of the vessel, and to rate the power of the right ventricle by the force of the arterial beat. And in the relation of these two factors, one to the other, is involved the issue of the case.

Increasing obstruction with decreasing right-heart power means death; decreasing obstruction with sustained right-heart power gives promise of recovery. It is a question with which the left heart, and therefore the radial pulse, has almost nothing to do. For the peril is not from general exhaustion, as, for example, in fever, nor from failure of the heart as a whole, as in some cases of infection, but specifically from tiring out of the *right* heart in its effort to unload the venous circulation through the obstructed vessels of the lungs. Now, while we cannot place our finger upon the pulmonary artery, we can obtain nearly the same information by applying the stethoscope over the pulmonary valve. Now, if we note carefully the sound of the pulmonary valve in, for example, a case of pneumonia, we shall find that at the outset, while the right ventricle is still in vigorous action, this sound is especially clear and sharp, indicating a quick and strong recoil of the pulmonary artery following the ventricular systole. This sharp recoil is due to unusual distention of the vessel, and this, in turn, is due to the resistance which the blood meets in passing through the lungs. If the case is to terminate favorably this accentuation of the pulmonary sound will probably continue through the whole course of the disease, becoming less marked as the obstruction in the lung decreases. But in cases of increasing severity, and with an unfavorable tendency, a time soon comes when not only this accentuation is lost, but the normal intensity of the valve-sound is lessened, the sound becoming weaker and weaker, until it ceases to be heard. This means, not that the obstruction has become less, but simply that the muscular power of the right ventricle has become exhausted with the labor exacted of it. The blood is no longer driven into the artery with sufficient force to distend it, and there is not enough recoil to bring the valve-cusps together with an audible sound. When this point is reached the end is not far off. The weakened right heart favors still greater pulmonary obstruction, and this in turn adds to the burden of the right ventricle, thus completing the vicious circle. The struggles of the ventricle become feebler and feebler, while the tension within its cavity constantly increases, as the blood presses into it from behind. At last there comes a moment when the overtaxed muscle cannot summon the energy for another contraction, and its action ceases in diastole.

Dr. Smith makes the following recapitulation of his views: 1. In acute pulmonary obstruction, the danger being from exhaustion of the right heart, the pulse at the wrist does not give reliable indications as to the gravity of the condition. 2. This can be appreciated more correctly by studying the pulmonary circulation by the aid of the pulmonary-valve sound. 3. Marked accentuation of the pulmonary-valve sound indicates a fairly vigorous right heart laboring to overcome resistance in the pulmonary circulation. 4. Decrease of a previously existing accentuation, with only a moderate dyspnœa, indicates decrease of pulmonary obstruction. 5. Decrease of accentuation with increase of respiratory distress indicates that the right heart is becoming exhausted. 6. Relief is to be sought: *a*, by regulating the diet in conformity with the diminished power of digestion and sanguification; *b*, by the use of medicines which dilate the arteries and promote transferrence of blood to them from the veins; *c*, by the inhalation of oxygen gas; *d*, by artifical respiration; *e*, by placing ligatures about the extremities in order to retain the blood in them and prevent its return to the heart.

Exfoliation of the Bladder in the Female.—A case of so-called exfoliation of the vesical mucous membrane is described by Dr. Haultain, the subject being a woman aged twenty-seven. The patient suffered from retention of urine, due mainly to the presence of a mass within the bladder, but protruding at the urethra, its measurements being fourteen by seven and a half inches at its broadest diameters, and in thickness a fifth to an eighth of an inch. Microscopical examination showed the substance to possess a truly membranous structure, three layers, a crystalline granular, transverse muscular, and longitudinal muscular tissue being recognizable. At one point, a portion about one and a half inches square exhibited a smooth, white, glistening aspect, and here there were superadded an old and a new connective-tissue layer. On the evidence afforded by careful examination of the membrane, Dr. Haultain maintains that it consists of the entire thickness of the bladder wall in a state of hyaline necrosis, the white part observed in his case consisting of attached peritoneal covering. He insists, therefore, on the inapplicability of the term "exfoliation of mucous membrane" applied to such cases, under which name similar examples to his own have been described by several other writers. The causation of the disease he attributes to circulatory disturbance due to retention of urine, or labor, these being, one or other, the two concomitants of all the cases hitherto recorded.—*Edinburgh Medical Journal.*

Stone in the Uterus.—In the *Indian Medical Gazette*, Dr. Sobha Ram reports the case of a Mahomedan woman, aged fifty, who was brought into the dispensary, complaining of stone in the bladder. For a year she has had some difficulty in passing urine, with burning and pain during micturition. No blood in the urine. Difficulty has been increasing since, so that the pain and burning were continuous, and had reduced the patient so far that she was unable to sit up or walk about. The uterus was found wholly prolapsed and enlarged, this having occurred about twenty-five years back, after the birth of her son. The os uteri was lying about half an inch from the orifice of the urethra. On palpation, the uterus was found to contain some hard substance, and on pressure urine came out of it. It was tried to pass the sound into the bladder, but the effort was unsuccessful on account of the displacement of the urethra, when the small finger was directed into the os uteri and a stone was felt. The opening was dilated, and the stone was extracted from the uterus. The stone weighed one hundred grains. The patient made a good recovery.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, November 1, 1890.

SHOULD MORPHIA AND ATROPIA BE GIVEN BEFORE CHLOROFORM INHALATION?

IT has been claimed by several writers that the effects of chloroform inhalation are more quickly produced, and the anæsthetic influences of a given quantity of the drug prolonged, if a dose of morphia be given before the beginning of inhalation. This statement has naturally found its way into standard text-books. Thus Bartholow says, "before the administration of chloroform morphia should be injected hypodermatically, to diminish the dangers of the inhalation, and to secure relief to the after-pain of the surgical operation;" and again, "when this is done a much less quantity of the anæsthetic is needed to induce insensibility, and the stage of narcosis is sufficiently prolonged for ordinary surgical operations without requiring renewed administration of the ether or chloroform."

In *L'Union Médicale*, August 5, 1890, is published a discussion which took place in the Paris Society of Surgery upon a paper treating of the use of hypodermics of morphia and atropia before the inhalation of chloroform. The author of the paper, M. Regnier, was led to try this method in his practice by the recommendation of M. Dastre, who reported favorable results from its use in animals, and of M. Aubert, a surgeon, who stated that narcosis and awaking were both facilitated by the injection of one-fourth grain morphia muriate and one-eighty-fifth grain atropiæ sulphas, fifteen or twenty minutes before the operation, and that inconvenient results were observed but rarely. M. Regnier used this method with a number of patients, until, unfortunately, a fatal accident occurred.

A feeble girl, aged sixteen, was affected with tubercular disease of the bones of the foot, and as the lungs presented but a few râles in the apex of one side, he decided to chisel out the cuboid bone. Half an hour before the operation he gave a hypodermic of one twelfth grain of morphia and one-two-hundred-and-fiftieth grain of atropia. Anæsthesia was easily induced, and not more than from five to seven fluid drachms of chloroform were required for the whole operation, which lasted only a few minutes. About ten minutes after the chloroform had been removed, and while the dressings were being applied, she opened her eyes without speaking, and she was then carried to her ward. Three minutes later, news was brought that she had ceased breathing. Upon reaching her bed he found the respirations very infrequent. They ceased suddenly as the pulse disappeared, although feeble heart-beats were still heard. The pupil then quickly dilated. Protracted artificial respiration seemed, at the end of half an hour, to excite spontaneous respiration, but this soon failed although supplemented by ether injections and other measures. Post-mortem examination showed anæmia of the cerebral hemispheres and medulla oblongata.

Death in this case came on very slowly from chloroform intoxication. It was quite remarkable that life could be prolonged for more than twenty minutes by artificial respiration. It was claimed that the chloroform must have been eliminated slowly, and that the elimination was rendered more slow than it would otherwise be by the influence of the morphia and atropia.

Two members of the society reported that they had observed, in experiments on dogs, that morphia and atropia given before the chloroform produced no reflex phenomena at the beginning, but rendered more grave such complications as appeared at the end. In some cases there was quite protracted and severe dyspnœa. In dogs thus treated very little chloroform was needed; in men more was required. It appeared to be conceded that the method was useful in the laboratory but not in the clinic, as the chances of intoxication were increased.

Another member who had tried the method stated that in male patients nothing worthy of note was usually observed; while in female patients the awaking was much more slow than with chloroform alone. He thought women were more sensitive than men to the influence of atropia. Out of five cases he had lost one patient. The operation was for nephrectomy, and lasted an hour, fifteen fluid drachms of chloroform being used. After a short awakening the respiration began to fail, cyanosis appeared, and in spite of all measures death occurred in an hour and ten minutes.

Another member had used it in fifty or sixty cases. He did not notice any peculiarities, except that certain patients complained of insatiable thirst.

It was suggested, in conclusion, that the better results obtained with dogs might be due to the very large doses of atropia given (in proportion to the body-weight), which would be utterly out of the question in operations upon human beings.

Interesting as are these observations, and salutary as warnings always are regarding the use of dangerous drugs, the experience of surgeons in New York does not bear out the objections urged against this long-tried and well-known method of mixed narcosis. It is true ether is the anæsthetic here, but it is equally true that no accidents have as yet occurred; but, on the contrary, it has been found that anæsthesia can be more safely prolonged with less ether than under other circumstances, and that the patients are in a more comfortable condition after the operation. Particularly is this the case in operations upon the face, throat, and upper air-passages when the proper administration of ether is attended with unusual difficulty.

THE NUBILE AGE AND EARLY MARRIAGE.

THE case of fatal rupture of the vagina in a child-wife, consequent on sexual intercourse with a mature husband, has excited much interest and discussion in India regard-

ing the subject of the nubile age. It is the custom among the natives of India for the girls to be married before menstruation begins, that is to say, in their ninth or tenth year. The marriage is not supposed to be consummated, however, until after the first menstruation, which very seldom appears before the completed age of twelve years. As a matter of fact, however, it frequently happens that no such delay takes place, and a native physician testifies (*Indian Medical Gazette*) that in about twenty per cent. of marriages children are born by wives of twelve or thirteen years of age.

Cases of death from premature sexual intercourse are by no means rare, while the local injuries inflicted are often serious and permanent.

In a paper upon this subject, read by Dr. McLeod before the Calcutta Medical Society, it was stated that puberty was seldom attained by females in India before the age of twelve, and that the age of legal protection ought to be extended from the tenth to the twelfth year. Some of the native physicians brought out the fact that in parts of India, such as the Madras Presidency, and in South Burmah, menstruation did not occur before the age of fourteen or later. This is about the age in England and America, so that climate does not necessarily make a difference at the time of the appearance of this function. It depends apparently more upon race and habits of life.

The question of the harmfulness or otherwise of very early marriages was discussed by Dr. McLeod; but while he urged that general and not sexual maturity should govern the question of marriage, he did not present any absolute evidence of the harmfulness of child-marriages. It is usually stated that such unions tend to produce race degeneration and premature old age. One physician thought that the girls who had children very early were more liable to have consumption. Since the custom of extremely early marriages is a very ancient one in India, facts as to its harmfulness or otherwise ought to be obtainable; and it speaks rather in favor of the Indian practice that the Calcutta Medical Society could say so little against it.

The feeling in European and American society is decidedly that marriage should be delayed till the girl at least has reached the Lycurgan age of twenty. Meanwhile the man waits till he is twenty-five or thirty, and perhaps has multiple attacks of gonorrhœa, with some more serious troubles, which do not in later years sweeten the course of his domestic life.

It happens, therefore, that while late marriages are physiologically more correct, and often, for financial reasons, necessary, yet the social customs and the moral laxity of the day make the man, at least, who marries late not a very healthful partner.

THE DIAGNOSIS OF TUBERCULAR MENINGITIS.

"Tubercular Meningitis, no one will deny, is difficult of diagnosis. There is no other lesion in infant life which creeps in so unsuspectedly, which develops so quietly, and whose fateful growth may place the physician in such awkward attitude. It fails to appear when foretold; more often steals in unlooked for."

With the above statement, which no one will contradict, Dr. W. P. Northrup opened a discussion on the diagnosis of tuberculosis at the last meeting of the American Pediatric Society. The writer, continuing, stated that there were four important symptoms upon which a diagnosis of tubercular meningitis occurring in the first two years of life might be based. These were: Persistent vomiting, irregularity of pulse, irregularity of respiration, and apathy. In the discussion which followed, Dr. Earle denied the special value of these symptoms, particularly in helping to make an early diagnosis. The four things on which he would lay stress were: 1. A protracted initial stage of slight fever and uneasiness; a desire to go from one person to another; a tendency of irregularity of conduct which sometimes lasts ten days. The child does not know what it wants. One moment it is in the nurse's arms, the next in the mother's, then in the father's, and so on; a long prodromal period which indicates that something is coming. 2. A history of some hereditary taint or trauma. Combine such a history with the first symptom, and you have something of value. 3. If, in addition to these, you recognize cerebral vomiting, you will have three symptoms which will give you a very fair idea of what is going to happen. 4. Local spasm.

Dr. Rotch and Dr. Jacobi thought that the symptoms given by Dr. Northrup were those characteristic of the disease as it occurs between the age of two and seven years. Dr. Jacobi referred also to the important symptom of a low or irregular temperature.

Dr. Winters supported the opinions held by Dr. Northrup, and especially insisted upon the importance of long and patient bedside watching of the case. It is evident, from reading the discussion, however, that a ready and sure method of diagnosticating tubercular meningitis has not yet been obtained.

THE LATE SESSION OF THE NEW YORK STATE MEDICAL ASSOCIATION.

Owing in part to superior committee management, the seventh annual meeting of the New York State Medical Association, at Mott Memorial Hall, was much more than an average success. The papers presented were practical, well considered, and interesting. Some were diffuse, and in the future may tax the condensing powers of the editor of the "Transactions," but uneasy listeners were in the minority. The programme was rather crowded, and necessitated the omission of some of the scheduled contributions, which was the fault of the overflowing debates on pet subjects. Time, we presume, will overcome these shortcomings; and, after all, we cannot deem them serious. We must admit that the Association is doing a good work, according to its own notion, and seems to have an ample excuse for its existence. A working society naturally attracts the industrious.

Bequests to Brooklyn Hospitals.—By the will of the late John Ruszito the sum of $5,000, is left to each of the following institutions: Long Island College Hospital, Brooklyn City Hospital, Brooklyn Homœopathic Hospital, Brooklyn Eye and Ear Hospital. The German Hospital of this city also gets $5,000.

News of the Week.

Why Another Dispensary?—The East Side Dispensary is the name of a new institution just incorporated with a formidable staff of practitioners. The aim is said to be to afford free relief to the poor on the East Side of down-town. This district, as is well known, is adequately covered by the Eastern Dispensary, whose new building at the corner of Essex and Broome Streets is now nearly completed. Too many patients receive free treatment, even in this quarter of the town, and what justifies multiplication of institutions we are unable to see.

The Omaha Physicians are agitating the question of securing legislation for the regulation of medical practice. A curious difficulty exists in the fact that the constitution of Nebraska does not provide for the legislative establishment of a State Board of Health. At present, therefore, it is believed that the only possible regulative measure will be the requirement of a medical diploma. This certainly would be a modest enough restriction.

Strychnia as a "Vaccine" against Tetanus.—M. Peyraud, of Libourne, France, announces that he has successfully "vaccinated" rabbits against tetanus by injections of minute quantities of strychnia.

Responsibility of the State for Infectious Fevers.—A citizen will bring suit against the city of Salem to recover damages for a case of typhoid fever alleged to have been caused by the offensive contents of a barn cellar on the adjoining estate. The plaintiff's wife was taken with the fever and is now seriously ill. The attention of the Board of Health has been repeatedly called to this cellar, but the nuisance was not permanently abated until after the outbreak of the disease, when by order of the Board of Health the cellar was filled up.—*Boston Medical and Surgical Journal.*

The Historical Records of the Members of the Association of Acting Assistant Surgeons of the United States Army are about ready for publication. Those who have not forwarded their army medical history are asked to do so at their earliest convenience. From a professional stand-point these records are interesting and very valuable. Undoubtedly there are many Past Acting Assistant Surgeons of the Army who have served during and since the War of the Rebellion who have not yet joined. It is to be hoped that this reminder will bring many to increase our membership. It is also very desirable that anyone having records of deceased Acting Assistant Surgeons should send historical notes, concerning their military medical history to the Recorder, W. Thornton Parker, M.D., Salem, Mass.

Medical Practitioners' Protective Alliance.—It seems as if the Baltimore physicians were becoming a little desperate. One of them, Dr. J. H. DeWolf, sends to the *Medical Age* the following note: "In Baltimore at the present time are ten dispensaries unconnected with medical colleges; five medical colleges, one more to be added soon. Many of the dispensaries are "general," treating enormous numbers of mechanics, tradespeople, as well as many wealthy people. Over $200,000—I believe almost half a million dollars— are annually lost to medical practitioners. Doctor, send your name for membership. No class of toilers reap less harvest than we. United, we can demand and procure our rights by establishing a Medical Practitioners' Protective Alliance, the object of which shall be to maintain organized co-operation among practising physicians for the purpose of protecting physicians from the abuse of dispensaries, of quick-graduating and inferior medical colleges, and to devise means to enhance our financial condition in every honorable way, and derive the incalculable benefit that can only be obtained by combination."

A Successful Case of Cæsarean Section, in which both mother and child were saved, is reported in the *New Zealand Medical Journal.* The operation was performed in the Otago Benevolent Institution, at Dunedin, the operator being Dr. Stenhouse. The patient was allowed to get up on the twenty-first day, "being then as fully well as a woman after a normal confinement." The special feature in the case was the promptitude with which the operation was undertaken.

Accidental Death of a Physician from Chloroform.—Dr. Justus E. Gregory, a well known physician of Brooklyn, was killed on October 25th, by an overdose of chloroform. He had been accustomed to inhale this anæsthetic for the relief of facial neuralgia. On the evening of his death he inhaled a dose of twenty drops on a handkerchief, he felt some relief but called for another dose, and five minutes later was found dead. Dr. Gregory was forty-nine years of age. He had been a surgeon in the army during the war of the rebellion.

War Over a Hospital.—The case of the People of the State of New York against the Woman's Hospital of Brooklyn was recently before Judge Barnard at Poughkeepsie. The action is brought in the name of the People to dissolve and oust the defendants, whom the complaint alleges are usurpers of the office of trustees. A demurrer and complaint were put in by Donohoe, Newcombe & Cardozo. Argued by Calvin Frost in support and by William N. Dykman for the people. The complaint charges the hospital owners with certain irregularities and other abuses and failing to comply with the law in filling annual reports and using the hospital to promote the private interest of the doctors. Case still on.

Uniform Nomenclature in Anatomy.—The establishment of a uniform nomenclature in anatomy, which was taken in hand by German anatomists about a year ago, has now become an international affair; and the committee appointed for the purpose, which has hitherto consisted exclusively of Germans, now numbers three foreign members —namely, Lebouc of Geneva, Cunningham of Edinburgh, and Romiti of Pisa. The expenses of the task are to be borne by the learned corporations of Germany, because the Anatomical Society, which began it, does not possess the necessary funds. The Prussian, Bavarian, and Saxon Academies of Science have contributed 1,500 marks (nearly £75) each, the Academy of Vienna 1,000 guldens (about £85), and the Anatomical Society 1,000 marks (nearly £50). The completion of the work will be entrusted to a commission, presided over by Professor von Kölliker, of Würzburg. The preliminary work is to be done by an anatomist of special qualifications, including the necessary philological attainments.

The Eleventh International Medical Congress at Rome.—Dr. Guido Baccelli, president of the Accademia Medica of Rome, and Professor of Clinical Medicine at the Sapienza, took the chair at a recent meeting of the Società per il Bene Economico di Roma, to consider the means of ensuring the success of the International Medical Congress to be held three years hence in the Eternal City. Among the adjuncts to that Congress it was decided to form an International Exposition of Hygiene, in connection with the Sanitary Department of the programme, and, with that object, to appeal to all the leading industrial and professional centres throughout the peninsula to contribute their best and latest additions to the "Armamentarium Hygienicum," so as to place Italy at as great an advantage as possible in the inevitable contrast between her own sanitary work and that of the other Powers represented on the occasion. Florence, which has hitherto led the van in hygienic progress in Italy, has already promised her energetic co-operation, and other cities, like Turin and Milan, are expected to do likewise. Concurrently with the Medical Congress, an International Exposition of the Industries of All Nations is also being organized, so that Rome will be the busy scene of quite a gathering of the peoples, on a scale she has not yet known since she ceased to be mistress of the world. The early summer months, May or the beginning of June, or the early autumn months, the latter half of September or the beginning of October, are likely to be those selected for the Medical Congress—all risk of malaria at either time being improbable.—*The Lancet.*

The Gas Did not Pass Through.—Dr. Senn gave a very interesting demonstration, before the Surgical Section of the Berlin Congress, of the diagnostic use of hydrogen gas in injuries of the abdomen. A dog was brought in, the delivery tube was inserted, and the gas turned on. Then there was a wait of nearly ten minutes, but no gas appeared, as it should, at the mouth, and the repeated application of a lighted match to the animal's muzzle gave no results. Although the theory remained good the experiment seemed to be a failure, until investigation revealed the fact that the tube had been introduced into the vagina. It was shifted, and in about two minutes the gas appeared at the dog's mouth and was lighted.

A Patient at Dr. Schweninger's Sanitarium sends to *The Lancet* the following account of the regimen to which he was subjected in the course of his "cure:" "Rising, 6.30 A.M.: Cold bath and free towel friction over the whole body. 7 A.M.: Staff and dumb-bell exercise for an hour, with frequent rests. 8 A.M.: Rest and gentle exercise. 8.30 A.M.: First breakfast (meat, eggs, or milk). 9 A.M.: Work at the *Zug* apparatus. 9.30 A.M.: Rest and gentle exercise. 10 A.M.: A walk. 10.30 A.M.: Second breakfast (meat or fish, and a glass of white wine). 11 A.M.: Work at the *Ergostat* (a kind of crank) for half an hour. At noon a walk, and at 1 P.M. dinner (meat, vegetables, and fruit *compote*). During the afternoon some additional gymnastic work is done, and at 7 P.M. supper of one dish of meat and fruit *compote* or salad, with a glass of white wine, or, in some cases, beer. Meals, as a rule, are taken without drinking, fluids being only used some time afterward; though in my own instance this rule was not insisted on. In many cases at 4.30 P.M. a slight additional meal is recommended, thus making four meals a day, which in my own case I found impracticable. Weight, strength, and chest-girth are tested weekly. Coffee, tea, soup, shell-fruit (*Hülsenfrüchte*), potatoes, rice, and red wine are, as a rule, prohibited."

The Philadelphia Medico-Chirurgical Hospital.—Owing to the delay in completing the rebuilding of the Medico-Chirurgical Hospital, the managers have been compelled to provide temporary accommodation for their patients. With this object they have transferred the dispensary service to the college building, and have arranged the rooms previously occupied by the dispensaries into wards for surgical and emergency cases. As an annex for medical and convalescent cases, the property on the southeast corner of Seventeenth and Summer Streets has been secured. This building also contains the matron's and nurses' apartments. The two buildings will accommodate thirty-five patients, and, although they have been open but one week, more than half the beds are occupied.

The Medical Examining Board of Tennessee.—The Medical Practice Act of Tennessee, resembling that of New York, has gone into effect; and the State Board of Examiners, containing representatives of regular medicine, homœopathy, and the eclectics, has been appointed. The hydropaths were left out, and Dr. J. F. Woodward, of McMinnville, who is one of that school, has vented his indignation in a picturesque circular, taking the appointing powers to task for the omission.—*Medical News.*

Chloroform and Phthisis.—Dr. Samuel O. L. Potter thinks that he has discovered a cure for tuberculosis in the almost continuous inhalation of chloroform. He says that as a result of some experiments he feels convinced that this bacillus may be destroyed, and its victims saved, by the continued use of chloroform-inhalation, systematically carried on, day by day, by means of suitable apparatus, and with the care necessary to prevent injurious results or accidental poisoning. "There is no need for the anæsthetic action being induced; but the inhalation can be kept up continuously for several hours daily, and maintained short of general anæsthesia."

The Rumors Concerning the Precipitate Departure of Dr. Lassar, the whilom secretary of the Berlin Medical Congress, appear to repose upon a substratum of fact. It is authoritatively asserted when Dr. Lassar received the official intimation of the intention of the Empress to visit the exhibition annexed to the Congress, he hurriedly gave orders that his own exhibit—containing sundry venereal specimens of an uninviting aspect—should be screened off out of deference to the sex of his august visitor. As ill-luck would have it, the Empress, in the course of her listless promenade, spotted this particular exhibit, and with the curiosity which is the dominant feature of the daughter of Eve, peasant and empress alike, she insisted upon its being uncovered. Dr. Lassar, taken aback and nonplussed, stammered out that the objects were not fit subjects for a female, even if empress, to look at—an observation which excited the lady's anger to such a pitch that the unlucky secretary promptly received an invitation to make himself scarce, an injunction which, in an autocrat monarchy, is not to be treated with contempt.—*Hospitals Gazette.*

Virchow at the Institute.—Calling on him at his rooms at the Pathological Institute, one has to wait one's turn behind a screen which hides the Professor from the eye of the interviewer. This gives one a chance of examining his sanctum, which, to an outsider, appears to be a perfect chaos. Beside his desk, which is covered with papers of every description, we notice a small tray with his scanty luncheon, consisting of a small bottle of beer and two sandwiches; he is a most frugal man while at work. The greater part of his room is occupied by a large number of skeletons and skulls, the floor being simply covered with the latter, through which one has almost to wade to the small table on which stand his microscopes and histological instruments. We find here two very old Hartnacks, one furnished with a low and the other with a high power. These are the only microscopes he uses, and lovely lenses these old glasses encased in rusty frames are. Besides we notice a glass of water, a few glass rods, needles, scissors, and a common razor, and his five bottles of acetic acid, sulphuric acid, iodine solution, salt solution, and caustic potash. For he examines almost everything unstained and fresh, and is extremely skilful in cutting sections with his razor. He uses no microtome, and at most a piece of amyloid liver into which he squeezes a small piece of tissue, in this way embedding it, if it be too small to cut it with the free hand. He despises even the double knife, and boasts of being able to make a section through the pons as good as any celloidin specimen. On another table we notice a beautiful modern microscope (Seibert) with all the newest improvements, oil-immersion, etc.; but this is under a glass case and serves simply for show, being never used by the Professor. When showing him a histological specimen, it has to be taken to one of the Hartnacks and be described to him. After examining it carefully, he at most may express his pleasure of seeing everything that has been described. He prefers to see an unstained specimen, except in cases of epithelial tumors, for which he allows staining. In his dealings with men as a colleague or teacher, he is exceedingly fair, showing always his zeal for truth and unbiassed justice. At the same time he is very jealous of his own personal rights, but without any boast or pomp, being careful not to infringe on the rights of others. As he himself says, "the right of experience he places over and above any other right; and the conviction that observation on correctly formed questions in each case must give an answer has never tempted him to try the answer before the observation." The best characteristic of his great mind as a man may be formed in a few words quoted from his preface of the "Cellular Pathology:" "I insist on my right, and therefore I also acknowledge the right of others. This is my maxim in life, in politics, in science."—*British Medical Journal.*

State Preliminary Examinations for Medical Students.—Nearly three hundred persons attended the first State preliminary examinations in this city and Brooklyn this fall.

The Hypodermic Use of Mercury.—At the Lyons Medical Society Dr. Augagneur the other day related a singular case, illustrating once more the danger of administering insoluble medicines. A patient, suffering from a mild type of syphilis, was some time since treated with hypodermic injections of huilegrise—blue oil, if you like—a sort of liquid mercurial ointment, made with oil instead of grease. The disease followed its regular course and the patient was dismissed as cured. But ever since he remained liable to frequent ulcerous stomatitis; and about a month ago, having received a blow on the thigh, the place where the injections were performed, he was taken with so severe an attack of stomatitis that he had to go to the Antiquaille Hospital for treatment. There he was found by Dr. Augagneur to have two tumors, from one of which metallic mercury could be drawn by simple puncture and expression. The other tumor had to be extracted, and was found also to contain mercury.—*Therapeutic Gazette.*

Women Graduates in France.—Since 1866 the University of France has conferred two hundred and two degrees on women, chiefly Russians and Roumanians, thirty-five of whom have received the degree of Doctor of Medicine.

Reviews and Notices of Books.

ASTHMA CONSIDERED SPECIALLY IN RELATION TO NASAL DISEASE. By E. SCHMIEGELOW, M.D. 8vo, pp. 90. London: H. K. Lewis. 1890.

THIS little work is not a treatise on asthma, but is an attempt to show how far diseases of the nasal cavity may affect asthmatic attacks. The author deals with the subject in a scientific manner, and does not take the most extreme views.

LEHRBUCH DER ALLGEMEINEN UND SPECIELLEN PATHOLOGISCHEN ANATOMIE FÜR ÄRZTE UND STUDIRENDE. Von ERNEST ZIEGLER. Zwei Bände. Sechste verbesserte und Theilweise neu bearbeitete Auflage. Erster Band. Allgemeine pathologische Anatomie und Pathogenese. Mit 343 Theils schwarzens, Theils färbigen Abbildungen. Jena: Verlag von Gustav Fischer. 1889.

ZIEGLER'S earlier edition has been translated into English, published by William Wood & Co., and is well known to American readers as perhaps the best of present textbooks on pathological anatomy. The sixth edition is considerably enlarged and brought down to date.

THE DOCTOR IN CANADA. By ROBERT WYNARD POWELL, M.D., Ottawa. 8vo, pp. 342. Ottawa: Gazette Co. 1890.

A COMPENDIOUS directory of Canadian medical legislation, education, hospitals, journals, etc.; of local interest primarily.

LECTURES TO NURSES ON ANTISEPTICS IN SURGERY. By E. STANMORE BISHOP, F.R.C.S.

THIS is the opening manual of the Nursing Record Series published by the Sampson Low Co. (New York: Bromfield & Co.). We find it interesting, but the English books of this nature seem to us too technical for nurses. A list of examination questions is given at the close. We quote one or two: "What were Fehleisen's experiments?" "What is simple aseptic inflammation?" "What do Hueter's experiments prove?" etc. It strikes us that the first and last of these three would be silly questions to ask in their present form—of anyone—especially of a class of nurses. For anyone who has to deliver lectures of this kind, the manual contains many valuable suggestions.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL SOCIETY FOR 1890.

THE proceedings of the eighty-fourth annual session form a handsome volume of 488 pages, and serve as a standard for all similar publications.

Society Reports.

NEW YORK STATE MEDICAL ASSOCIATION.

Seventh Annual Meeting, held at the Mott Memorial Hall, New York, October 22, 23, and 24, 1890.

JOHN G. ORTON, M.D., PRESIDENT, IN THE CHAIR.

The Library.—Dr. Truax, of the Committee of Arrangements, and Dr. Ferguson, of the Council, in reading the reports of these committees, congratulated the Association on the new home for the library, the Mott Memorial Hall, which will also be the place of meeting for the Association.

The Medical Examiners Bill.—In the report of the Council, reference was made to the efforts of the members to have the Governor veto the objectionable medical examiners bill. It was suggested that a committee be appointed to take action in having this bill, or its objectionable features, repealed. A committee of three was appointed later.

The President's Address.—DR. ORTON devoted his address chiefly to the question of medical education in the United States. He did not share the pessimistic view taken by many. Even with some lamentable exceptions of incompetency and discredit to the profession, he still believed that the great majority of graduates of scientific medicine in this country were a credit to themselves, the colleges, and the commoners; while he was not yet willing to say the doors of our medical colleges should be closed to all persons except those wearing literary degrees, yet he trusted the time was near when the equivalent of a literary degree would be demanded of every medical student. He hoped, also, that the day was not distant when not only the minimum qualifications would be indicated, but the maximum attainment would be recognized and honored. Most American medical colleges, he thought, furnished very fair opportunities for obtaining a good medical education. If there was any fault to be found, it was with the general practitioner in taking into his office students naturally incapable or without proper preliminary education. The reader also paid a high tribute to the medical journals in their work of education.

Dwelling upon the subject of sanitation, he forcibly impressed the duty of the profession in educating the public regarding the prevention of disease. He suggested that the medical organizations of the State appoint committees on sanitary science, whose duty it should be to prepare popular articles on the care of the health for the secular press. In this matter this Association should take the initiative step and offer an example worthy of adoption throughout the country.

Miscellaneous Business.—The proposed amendments to the constitution and by-laws bearing on the question of annual dues were adopted.

Prognostics in Medicine.—DR. JOHN CRONYN chose this subject for the address on medicine. In referring to the prognosis of various diseases, both in their natural course and when modified by treatment, the paper covered a rather extensive field. Among the points brought out incidentally were the view that, in diphtheria a true membrane never formed unless the mucous membrane below had first been destroyed; that in nervous diseases the prognosis now was in some instances not so favorable as formerly, because of changed methods of treatment, for instance, in apoplexy, blood-letting formerly saved life in some cases where without it they to-day proved fatal; and the marked value of sarracenia purpurea in small-pox, in preventing pitting and cutting short the attack.

Committee on Hygiene and Public Health.—Acting on the suggestion contained in the President's address, resolutions were passed empowering the President to appoint a committee of six, to constitute a Committee on Hygiene and Public Health, which should be charged with (1) "the investigation of questions pertaining to sanitary science, and (2) with the instruction of the people in the proper care of the individual, the household, and the community, by the frequent publication in the secular press and elsewhere of tracts on popular sanitary science."

The Mimicry of Animal Tuberculosis in Vegetable Forms.—DR. E. F. BRUSH, of Mt. Vernon, read the paper. The vegetable forms used for comparison were to be observed in the nut-gall and the phyloxin of the grape-vine. Dr. Leaming's views on the non-causative relation of the bacillus tuberculosis to consumption were quoted. He wished to impress the lesson that our knowledge of tuberculosis was not necessarily complete, as some would appear to suppose, because of the discovery of the bacillus tuberculosis.

A New Method of Surgical Treatment in Certain Forms of Retro-displacements of the Uterus with Adhesion.—DR. A. PALMER DUDLEY in this paper not only described his new operation, but reviewed at some length the advantages or disadvantages of Alexander's and other methods. He had performed the new operation for the first time, December 6, 1889, and three times since. Taking the left tube and ovary, he drew them up, demonstrated that the tube was pervious, tapped small cysts on the ovaries, then dropped the tube and ovary back, and pursued the same course on the right side. He then lifted the uterus as high as possible, denuded its anterior wall of peritoneum, taking care not to go too near the bladder; then each round ligament was brought up, denuded of a portion of peritoneum, and sewed with catgut to the denuded surface of the uterus, the sutures being passed deeply into the uterine tissue to secure against breaking out before union took place. The uterus being dropped, it was found the tension on the round ligaments drew it in the position of anteversion, as was desired. A pessary was not introduced, the uterus had since remained in position, and the patient had been relieved of her symptoms of pain, constipation, etc.

Like good results had also followed in the other cases. The operation, he thought, possessed advantages over hysterorrhaphy and Alexander's method. It corrected displacement by utilizing natural supports; the diaphragmatic action was not interfered with, and the bladder was undisturbed; there was no chance of intestinal adhesion; in case of impregnation the uterus was free to rise naturally. The first patient operated upon became pregnant three months afterward. His experience showed that catgut could be relied upon, and unlike other material, it did not tend to cause a sinus. The cases also showed that ovaries which were sometimes removed in the past, could be spared by tapping the small cysts.

Discussion on Intra-cranial Lesions.—The topic was divided as follows:

Question 1. What are the present means of localizing intra-cranial lesions?

Question 2. What is the nature of the chief intra-cranial lesions (hemorrhage, abscesses, tumors), and how can they be discriminated?

Question 3. What are the indications and contra-indications of operative interference in cases of intra-cranial lesions?

Question 4. What are the best modes of operating in cases of intra-cranial lesions?

Question 5. What are the immediate and also the remote results of operative treatment in cases of intra-cranial lesions?

DR. W. W. KEEN, of Philadelphia, opened the discussion, directing his remarks more particularly to the last two questions. He first exhibited a new meter devised by Victor Horsley, for measuring the Rolanderic fissure.

In cranial surgery we had to take into consideration the peculiar physical characters of the brain, and its location (within a firm, hard enclosure). It was soft, of very delicate organization, and easily damaged. Besides liability to mechanical injury, it was easy for minute changes to be set up interfering with function. In considering the question of operative interference cases divided themselves

into those in which there were pressure symptoms, and those in which there was so-called functional disturbance. The first class included cases of abscess, tumor, effusion, and hemorrhage; while among the functional were cases of epilepsy, inveterate headache, insanity, etc. After some reference to symptoms of pressure, location, etc., the author proceeded to consider the technique. Shave the head carefully. This often revealed scars other than that supposed to have been produced by a particular traumatism. An illustrative case was that of a young man who had epileptic attacks following an injury. Three or four scars were revealed after shaving the head, besides the largest one supposed to be the cause of the attacks.

Trephining over this showed nothing abnormal; an instrument was passed between the dura and skull, over the longitudinal sinus, to the situation of the scar on the opposite side; nothing abnormal was found there, while some changes were found under a smaller scar on the side trephined. This patient had been having three to four convulsions a week; he had had scarcely as many in fourteen months since the operation.

Hemorrhage.—The patient should be sitting rather than lying to avoid hemorrhage. Chief reliance had to be placed upon the ligature; veins should be doubly ligated before division.

Hemorrhage from the longitudinal sinus was a most alarming accident.

Victor Horsley had deliberately ligated this in one instance. Oozing from the cut bone was controlled by a putty of wax and vaseline. The opening should be ample, but a very large trephine was not easily managed. On account of danger of shock from a prolonged operation, he always raised the bone and periosteum together.

The electric current was applied to the convolutions to determine their motor function. But the current should not be too strong, nor time wasted in repeated applications.

There was some question as to the value of replacing the piece of bone. He had not seen it cause trouble, and it acted as a protector. If there was danger of intracranial pressure it should not be replaced.

In discussing results, he refrained from using the statistical method. Fractures were excluded. No surgeon would now hesitate to operate where there was abscess of the brain; the patient would die without an operation.

But the difficulty in answering the question when to operate depended largely upon the uncertainty of diagnosis. The same remarks applied largely to tumors.

On the whole, however, the results of surgery for abscess and tumors were encouraging. A considerable number of tumors had been removed, adding a good many years to human life. But a considerable number of patients had died, while in some there had been recurrence. Unsuccessful cases especially should be placed on record. The size of the tumor, whether there was surrounding brain infiltration, central location of the tumor, etc., should receive attention in diagnosis.

Epilepsy.—The most frequent disorder in which the services of the surgeon were sought in brain troubles was epilepsy. In traumatic epilepsy interference had been encouraging. Idiopathic epilepsy had not yielded such favorable results, but we were encouraged to continue to operate in selected cases. About twenty-five per cent. of the cases were practically cured. He had found the paralysis following excision of the presumably diseased portion of brain to be temporary. Experiments on animals gave hope of transplanting brain-tissue successfully.

Hemorrhage from the middle meningeal artery without fracture was amenable to the trephine. A second trephining might be undertaken if the clot were not found at the first. The surgery of the lateral ventricles had received his attention elsewhere; but he hoped his method would be practised until its value or worthlessness had been demonstrated.

Inveterate headache, etc., had been treated to some extent by surgery, with a limited degree of success. Imperfect mentality from arrested development gave least hope.

Dr. J. J. Putnam, of Boston, discussed points bearing on localization. It was generally conceded that localized paralysis was a more valuable sign than localized spasms; paralysis indicating a definite lesion, while a convulsion might arise from various causes. The centres controlling the more complicated movements, as of the hands, were more easily set in motion than the others, and might lead one to erroneously locate the lesion in that region. He had reason to believe that the extensor fingers were more easily paralyzed than the flexors. Care should be exercised in locating a lesion by aphasic symptoms; search for other motor disturbances should be made. There were many disturbing elements in estimating the value of temperature measurements. Test the hand-muscles not only as to power, but also as to skill and capacity for continued use. In epilepsy patients were not usually observed long enough after the operation to speak of the permanency of the results. His remarks were based on cases.

Dr. C. K. Mills, of Philadelphia, also discussed the present means of localizing intra-cranial lesions, summarizing our knowledge on the subject. No special addition had been made to that knowledge since a paper published by him nearly two years ago. The motor areas had, perhaps, been a little better subdivided, but this was of little practical value to the surgeon. He had made the point that the angular gyrus itself was not a definite quantity. He believed the areas for cutaneous sensation were different from those of motion, and he thought cases had not in the past been properly selected for operation in many instances. He had witnessed between one and two scores of operations about Philadelphia, and had noticed that too much weight had been attached to the so-called signal symptom in deciding where to operate. The relative normal irritability of the different small motor areas had not yet been well determined. Occasionally, deviation of the eyes and head had been the basis of locating the lesions, but while he believed in cortex areas for the head and eyes, they were liable to mislead because of co-ordinate movements of other parts. A case was cited, an exception to the rule that the sudden onset of the symptoms pointed to hemorrhage, while insidious development indicated tumor or abscess.

In abscess not of traumatic origin the cause was usually aural disease, and one should not attach too much attention to motor symptoms arising later and pointing to a different region. A finer study should yet be made of association tracts. Congenital cases of arrested mental development offered an excellent field for failures. The cerebral fluid tried to make compensation for the cerebral atrophy, and to trephine here destroyed such compensatory pressure, causing death.

Dr. John B. Roberts, of Philadelphia, speaking of the surgery, thought that in abscess of the brain in patients with aural disease, one should seek to confirm his diagnosis by trephining the mastoid before proceeding to trephine down upon the brain. The trephine should be frequently sharpened.

Dr. Frederic S. Dennis, of New York, discussed the second question. The chief intra-cranial lesions were hemorrhage, pus, bone and foreign body, tumors, softening, embolus, and thrombus. The symptoms distinguishing these from one another received attention.

The period of hemorrhage varied from a few moments to several hours, depending upon the size of the vessel and situation. If the vessel was small the symptoms came on gradually, if large, rapidly, and were more pronounced. After clot formed the general features in both cases were identical. If the location were in the motor region and the hemorrhage small, there would be muscular twitchings; if large, there would be paralysis. If the hemorrhage was subdural or epidural the clot would not to absorbed, and surgical interference was called for. Further points in diagnosis were given.

Dr. J. D. Bryant, in discussing the question what are the present means of localizing intracranial lesion, said the term lesion would be limited, for the purposes of his paper, to abscess, hemorrhage, depressed bone, and tumors of intracranial origin, and one only of each class would be cited from his personal experience. The present means of localizing these lesions could be classified for convenience as topographical, physiological, and instrumental.

The first case which he had to relate was one of compound depressed fracture of the skull, situated at the upper border of the left parietal bone, over the upper extremity of the fissure of Rolando. The man, aged fifty-six, received the injury June 21, 1888, and came under his observation several days afterward. The patient had already been trephined, the depressed bone raised, and a tear of the dura mater at the seat of fracture had been united with two horse-hair sutures. The brain was found to have been slightly lacerated. The patient did well until June 26th, when he complained of numbness in the fingers in the right upper extremity, and slight difficulty of movement of this extremity, and next day the right lower extremity was involved. Dr. Bryant first saw the patient July 1st. Some improvement up to July 10th; but improvement then ceasing, the wound was reopened. An opening in the centre led to a small cavity containing pus. Little improvement followed. On the 25th, beginning facial paralysis; the 26th, affection of speech. From this date until August 14th, loss of power slowly increased, but the pulse, temperature, and respirations presented nothing suggestive of brain disease. Between August 12th and 14th the patient became completely aphasic, and had complete hemiplegia of right side of body. A final operation was performed with the belief that the patient was suffering from advancing cerebral abscess. The brain-substance bulged, was intact, aspiration with a fair-sized needle did not reveal pus or softened brain-matter. But free incision directly downward with knife, along which a groove director was passed to the depth of an inch, allowed the escape of softened brain-matter and purulent-looking fluid in small amount. More escaped on enlarging the opening. The patient died four days afterward, unrelieved. Autopsy showed a sinus-like cavity, corresponding to the entire length of the ascending frontal and parietal convolutions, extending into the brain to the roof of the left lateral ventricle, but not communicating with it.

Obscure Fracture of the Skull, with Extensive Epidural Clot above the Molar Tract; Exploration; Death.—The case illustrated, 1, the fact that an extensive fissure could begin at some distance from the seat of the violence causing it, and that its existence might remain unrecognized without an extended exploration; 2, that extensive and fatal vascular complications might be caused at a considerable distance from the seat of an apparently innocent injury of the scalp or skull; 3, that when paralysis involving the motor areas of the brain followed an apparently trivial injury of the head, an operation at the seat of the areas was indicated for the purpose of exploration alone; 4, that the removal of a compressed brain-clot was not necessarily followed by improvement of the symptoms of compression, and if the brain do not soon resume the normal relation with the skull, death would ensue as a result.

Compound Depressed Fracture of the Skull, with Aphasia.—This case occurred in a man who became aphasic immediately after being struck in the temporal region with a bottle. Examination disclosed a small compound, depressed fracture of the skull, located near the lower end of the fissure of Rolando. On elevating the depressed bone all aphasic symptoms disappeared.

Dr. Bryant also related a case of operation for gliomatous tumor. The tumor being central, it was not found. The patient died soon after the operation.

Cerebral Contusion.—Dr. Charles Phelps read a paper on this phase of the subject. The brain contusion might take place at the seat of external injury, or on the opposite side, or somewhere between. Contusion by contre-coup had received little attention in medical literature since the publication of Holmes's "Surgery." That it was important and frequent, he had been enabled to demonstrate by several post-mortem specimens, as well as by subjects. In one specimen the blow had caused complete separation at the temporal, sphenoidal, and parietal juncture on one side, yet on that side the brain showed no injury; while at a corresponding point on the opposite side was an extensive contusion.

There might be no external sign of injury where contusions of the brain existed, producing symptoms mistaken for alcoholism. He cited such a case. The mistake was commonly made by the police of regarding patients as under the influence of alcohol when suffering from cerebral contusion. The two conditions were likely also to co-exist. In a case at St. Vincent's, in 1880, a man died eighteen days after injury to the occipital region; autopsy showed an abscess in the cerebrum some ways distant and interior. An early diagnosis in such cases was often obscure, if not impossible. There had been cases of severe contusion without concussion. He gave the following conclusions: 1, Cerebral contusion may be either direct or by contre-coup, and may be either limited, diffuse, or attended by hemorrhage upon the surface of the brain; 2, the superficial hemorrhagic form may cause early death by compression; 3, the limited or diffuse form may cause early death through consecutive general hyperæmia; 4, the symptoms then resemble those of alcoholic intoxication, for which it is usually mistaken; 5, the limited or diffuse forms may cause death at a later period by the formation of abscess; 6, contusion of the brain, with the possible exception of cranial fracture, is in general the most frequent cause of death in injuries of the head as a class.

What are the Immediate, and also the Remote, Results of Operative Treatment in Cases of Intracranial Lesions?—Dr. Thomas H. Manley, in considering this question, divided intra-cranial lesions into extrinsic and intrinsic, the first arising from violence or mechanical influences, the latter from pathological changes within the skull. Cephalic lesions, attributable to trauma, were commonly of compound nature, being associated with contusion, laceration, or puncture of the scalp, with fracture or depression. Conditions following cranial injuries, the patient surviving, had reference to, 1, shock; 2, laceration of brain-substance; 3, hemorrhage; 4, inflammation; 5, purulent formation; 6, localized ulceration, breaking down, or softening.

The utility of operative interference depended upon a multiplicity of circumstances. In a general way it might be stated that fractured or depressed bone of the skull could, when necessary, be expeditiously dealt with by the trephine; yet there were many occasions when the use of the trephine was attended with danger and difficulty. He had had a case in which, when trephining for a depressed fracture close to the torcula Herophili, after removing a disk and slowly clearing away some crushed fragments, blood suddenly gushed forth, and almost at once the patient was dead.

When a sterilized piece of skull-bone formed adhesions with adjacent parts in an adult, he was confident the union was not osseous; drainage was desirable, and was impossible with the rent plugged. It seemed needless to say that the dura was always exposed to laceration when the large trephine was employed.

As to hemorrhage, in the majority of cases when he had performed immediate trephining which had been followed by death, he was confident that the loss of blood was a leading factor. This he believed had been the usual cause when death had followed immediately on trephining for pathological lesions. He was convinced from experience that in those cases of cranial lesions attended with intracranial hemorrhage, unless there were some well-defined indication, trephining for displacement of the clot was illogical and dangerous practice.

Inflammation.—While sepsis could be avoided, yet in many unfavorable cases it was almost impossible to avoid erysipelas, meningitis, and some other forms of inflammation. He had found trephining in the presence of meningitis totally useless. Meningitis was very prone to develop after trephining in children.

Pus.—This, when it formed, did so in an insidious manner.

The Anæsthetic.—The influence of this in brain surgery was more for evil than in operations on other parts. It caused marked congestion of the brain, as indicated by protrusion. This perhaps would account for the marked tendency to hemorrhage in cerebral surgery. The author concluded that greater conservatism was called for in surgery of the brain.

Hypnotism.—Dr. H. Ernst Schmidt treated this subject in a historical way, and then related some cases in his practice which had forcibly impressed upon him the value of hypnotism in certain cases.

Retention of Urine from Prostatic Obstruction in Elderly Men.—Dr. J. W. S. Gouley read an extended paper on this subject. A common cause of impediment to urination in elderly men was enlargement of the prostate, but it was only when the prostate was unequally enlarged that it so acted. The following forms of unequal enlargement obstructing the urethro-vesical orifice need in this paper be named: 1, General enlargement with excessive development of the posterior third of the lower isthmus; 2, enlargement of the posterior third of the lower isthmus without apparent increase in the rest of the prostate; 3, enlargement of one lobe which encroached upon the opposite lobe, obstructing the prostatic urethra; 4, unequal enlargement of both lobes, rendering the prostatic urethra tortuous; 5, multiple intra-urethral tumors; 6, intravesical enlargement of one lobe. The alterations of structure differed somewhat in their component elements. After discussing the symptoms, the means of diagnosis of the several forms of enlargement, especially of four, were pointed out.

Acute retention occurred among elderly men with incontinence as well as among those who had no hindrance. To temporize or rely wholly upon medicaments in its management was to place the life of the patient in great jeopardy. Select the catheter best suited to the case and introduce it. If called during the first twenty-four hours the bladder may be emptied at one sitting of three-quarters of an hour; but if on the second day, draw off only a third, and a little more than is secreted every two or three hours, emptying the viscus in a day or two. Special emphasis was placed on not drawing off too much at one sitting in older cases. The after-treatment should accord with the individual case, but never allow the bladder to again become over-distended. Irrigate the bladder once daily with warm boracic acid solution, three grains to the ounce, with the addition of one fourth of peroxide of hydrogen solution. Chronic retention was also considered, and suitable catheters described.

Dr. E. M. Moore emphasized the necessity of not drawing too much urine at one time, and Dr. J. A. Wyeth spoke of removal of the obstruction by suprapubic cystotomy.

The Therapeutics of Exophthalmic Goitre.—Dr. E. D. Ferguson said that until about two years ago he was unable to give little encouragement to patients with exophthalmic goitre, and he had tried all methods then recommended, including drugs, as digitalis, etc., and electricity. It was with reluctance, therefore, that in the fall of 1887 he undertook the treatment of a woman with exophthalmus, enlargement of the thyroid, and change in the pulse. Under the treatment, which included tonics, electricity, digitalis, etc., tried several months, she grew so much worse as to be confined to bed. It then occurred to the writer that the rapid, forcible, occasionally tumultuous, action of the heart would favor the idea that increase in the resistance of the systemic arteries was one of the features; and as digitalis increased tension, it was concluded that was the reason it failed to quiet the heart's action.

Strophanthus was said to lessen the arterial tension, consequently he tried this. The woman was then unable to walk, had painful sensations in the præcordia, was emaciated in an extreme degree, yet relief soon became manifest; the pulse went down, the patient became able to take a fair amount of exercise, and finally she became symptomatically cured, and the prominence of the eyes and size of the thyroid diminished.

He had since tried strophanthus on eight other cases, with marked benefit in all except one, in which there was accompanying pulmonary trouble, probably tubercular. He had no explanation except that the strophanthus relieved the overtaxed heart by overcoming resistance in the systemic circulation.

He had employed the tincture in increasing doses, but care should be taken to obtain a good quality. Only recently had he seen mention of strophanthus in ophthalmic goitre in medical literature.

Double Congenital Dislocation of the Hip-joint.—Dr. W. C. Wile, of Connecticut, presented photographs of a girl, aged ten years, who had come under his observation two months ago, when he found double congenital dislocation of the hip-joint with double lateral curvature of the spine. Double congenital dislocation of the hip-joint was very rarely met with, and the treatment had been of little success.

Dr. L. A. Sayre objected to the use of the term dislocation in these cases, the proper one was displacement; for there could be no dislocation when in the first place there had not been a formed joint permitting of location.

The History of Ligature of Arteries for Aneurism.—Dr. Stephen Smith chose this subject for the address on surgery. He divided the history into three periods, the first up to 1788, the second from that date to 1868, the third since 1868, when Lister showed that ligation of an artery by animal ligature left the artery stronger at the point of ligation, while before, in the use of ordinary ligature, the danger was in secondary hemorrhage.

A Study of One Hundred Cases of Hernia.—Dr. Milliken, author of the paper, stated that 3,058 cases of hernia had been treated at the Hospital for the Ruptured and Crippled during 1889. Of these fully two hundred were complicated by adhesion, incarceration, or strangulation. His studies were based on one hundred of the two hundred. Of the one hundred cases, forty-one were inguinal (twenty-four right, sixteen left, one double); thirty-eight femoral (twenty-eight right, nine left, two double); twenty-one umbilical. Considering the relative frequency of inguinal hernia, one might expect to find more cases of adherent hernia. This, he thought, could be accounted for by the disinclination of women, in whom femoral hernia occurred oftenest, to be examined; allowing the hernia, in the absence of a diagnosis, to go on and set up a slow inflammatory process. Only four out of the thirty-eight femoral cases were in males. One occurred under one year of age.

Diagnosis.—First, examine the patient in the upright position, and get a thorough history as to duration and acuteness of the symptoms (in irreducible or incarcerated hernia). To differentiate between omentum and thick sac was often difficult. Encysted hydrocele of the cord might be distinguished by aspiration, and when the sac was not distended a certain thrill was produced when it slipped through the fingers. A small amount of omentum suggested fine bits of fat, just appreciably nodular when passed between the fingers. Enlarged inguinal glands might simulate hernia.

The Spica.—The most commendable feature of this was that it permitted any desired amount of pressure without producing such inconvenience as to necessitate its removal by the patient, resulting in return of the hernia. If any benefit was to result from this treatment, it could usually be obtained in four weeks. Thirty-five cases had been treated by pad and spica, seven of which

were completely reduced, twenty able to wear a truss with comfort, six had an operation.

Regarding umbilical hernia, all the twenty-one cases wore a belt, but one failed to be made comfortable.

Taxis.—Simple taxis, or taxis combined with rest in bed, and hot bath and hot fomentations, succeeded, without an anæsthetic, except in one case. Daily manipulation of the adherent hernia, even after months had passed, would sometimes prove successful. An operation was performed in fifteen cases, in five by the speaker. In eight cases an operation was advised and refused.

Discussion on Obstetrics.—Dr. S. B. Wylie McLeod read a paper, propounding the following questions, which were further discussed in papers by other members:

Question 1. How may the present prophylactic measures in obstetrics be more extended and applied?

Question 2. Is the present technique, in the management of labor and convalescence, in accordance with sound physiology?

Question 3. To what extent have the surgical means of treatment of labor complications been successful, or should these complications and the process of repair have been more generally left to nature?

Question 4. What influence would a more advanced obstetric science have on the biological and social condition of the race?

Prophylaxis.—Dr. Ira B. Read, in discussing the first question and prophylaxis, presented in a humorous manner what the microbic and antiseptic theories would lead to if some extremists could mould obstetric practice. The author, however, advocated strict cleanliness on the part of physician and patient, and use of douche and bichloride only when the lochia showed odor.

Dr. William McCollom, directing his remarks principally to the second question, said the advantage of present methods over the past was shown by the fact that the mortality in lying-in hospitals had become less even than in private practice. Statistics, however, still showed a maternal mortality in Germany of one in 144 confinements. By way of prophylaxis, every woman should abandon the corset with her first knowledge that conception had taken place, should strengthen the abdominal muscles by exercise; attention should be given the alimentary canal, and the urine be examined occasionally. When warned of labor she should take a bath, which effected both cleanliness and quieted the nervous system. The medical attendant should wash his hands in bichloride, have antiseptic instruments, etc. He thought it best to disinfect the genital tract after parturition.

Dr. George T. Harrison discussed the second question. Since the doctrine of the potency of micro-organisms in causing sepsis had attained to general recognition, the conduct of labor and the puerperal state had undergone a radical change, and now we might confidently assert our mastery over the greatest scourge of woman, puerperal fever, by a strict observance of asepsis. If this were true, as it undoubtedly was, then the responsibility of the accoucheur assumed fearful proportions if a fault in his technique allowed the development of this dread disease; and such fault must necessarily involve sins against physiological processes, for normal labor excluded infection He drew the lesson that internal examinations should be limited, external examination being substituted to a far greater degree than was at present practised. He disagreed entirely with those who taught the doctrine of auto-infection. The genital secretions in the healthy woman were aseptic. He deprecated injections both before and after normal labor. It was seldom necessary to interfere in the last stage of labor, even by the Credé method. Wait for the placenta to be detached by the physiological process. When, however, that had been accomplished he did not think we should wait longer, but should proceed to remove it from the vagina. Credé's method was employed only when there was some obstacle to the expulsion of the placenta from the uterine cavity.

The reader pointed out the potent effect of the continuous dorsal position, and distended bladder and rectum, in the production of backward displacement.

Dr. T. J. Gillicuddy, in discussing the third question said, every case must be treated according to its own merits. No matter how long the woman was in labor, there was no necessity for interference unless she or the infant was in danger. The attendant should not be influenced to interfere for want of time. Wait and send in a larger bill. Severe lacerations should be sutured immediately; others were better let alone.

Dr. A. P. Dudley, in some verbal remarks, showed the advantages in certain cases, now and usually given over to craniotomy, of Cæsarean section or modified operation. The present large mortality from these operations was due to postponement until the patient had become exhausted. He believed in primary operation for tears, and would include even small lesions of the genital tract, making use of catgut suture. He made it a custom to thoroughly examine the parturient tract after delivery.

Dr. W. H. Robb gave a study of some of the causes of a large mortality in the parturient woman. Criminal abortion was alarmingly common, and often resulted in invalidism or death. Other cases in which there was a high death-rate were placenta prævia, post-partum hemorrhage, puerperal eclampsia, deformity of the pelvis, etc. Some statistics were given. He believed in the immediate repair of injuries.

Dr. Alfred L. Carroll discussed the fourth question from a statistical standpoint. Taking the average of all the data which he had been able to obtain, the number of dead or dying fœtuses at birth in a million was sixty-six thousand, or one in fifteen. In addition there would be about fifty-eight hundred non-viable children. To what extent this loss of infant life might be reduced was a mere matter of surmise, but in its reduction obstetric science and hygiene must work together. Of the effects of dystocia on the later life of the child, little could be learned. None could doubt, however, that the morbidity from this source was very great. It would not be unreasonable, perhaps, to assume that at least half of the deaths under one month were attributable to accidents in parturition, and that a large residuum of those occurring in the first year had a similar origin.

The maternal mortality from childbirth had been variously given as from one in two hundred to one in five hundred and sixteen.

Regarding social conditions he would have little to say beyond expressing the belief that misery rather than midwifery was responsible for most of the degradation which blotted our vaunted civilization. It might be that in some cases such misery was the outcome of physical disability dating from birth or parturition, but in more instances it was the result of acquired vicious habits. As a "glittering generality," it might be asserted that every obstetric advance which saved mothers from invalidism, and children from incapacity for future effort, must promote the social condition of the race; but politico-economic rules, and the inexorable operation of natural laws, would probably always overshadow in this respect the influence of medical science, or even of Congressional legislation.

Address on Obstetrics.—Dr. Carlton C. Frederick reviewed the subjects in this department of medicine which had received chief attention the past year. Among those subjects were the frequency of sterility due to gonorrhœa; management of retained membranes in incomplete abortion (they should be removed); chronic nephritis as an indication for inducing premature labor (women with chronic nephritis should avoid conception); the possibility of ovarian pregnancy had been shown by Leopold and others; electricity in extra-uterine pregnancy; version; accidents to the ureters during labor, to which Dr. Skene had called attention; Credé's method; relief of pains of labor by anæsthetics; indications for premature labor; craniotomy or Cæsarean section in contracted pelves; aseptic midwifery.

Address on the Medicine of the Classics.—Hon. Charles H. Truax, LL.D., of New York, read a humorous and instructive paper on this subject, which elicited applause and a vote of thanks.

Expert Medical Testimony, or the physician as a witness, formed the title of a paper read by Dr. Martin Cavana. Cases were cited by which it was shown that the physician was likely to be placed in a bad light before judge and jury, if he professed to know too much or failed to impress upon them his honesty and impartiality while exercising the wisdom of the serpent in replying to the questions of the wily cross-examiner.

Some Observations on Bone and Skin Grafting.—Dr. Benjamin M. Ricketts, of Ohio, based his remarks upon a considerable number of experiments which he had carried on in the transplantation of bone, skin, etc., in animals, and to some extent in man. His remarks were directed principally to three questions: 1, When and how skin should be grafted upon raw surfaces caused by injury or removal of malignant or non-malignant growths; 2, how and when may bones be restored; 3, should fragments of fractured bone be permanently removed except in amputation?

It had been demonstrated that almost any kind of tissue could be transplanted from animal or man on like tissue. He was satisfied that sponge-grafts hastened cicatrization of tegumentary wounds, and that the prepuce of boys was one of the most satisfactory of all skin-grafts. He preferred grafts of triangular shape or with ragged edges, as they were less likely to curl. Enough had been accomplished to show the practicability of transplanting the bones of animals to man. He was satisfied that it was impossible to graft bone on other tissue than bone, or tissue of epithelial structure on tissue of other nature. Ivory being of epithelial structure, could be transplanted on to bone, or on the cock's comb.

Bone Intolerance.—Dr. Thomas Manley, in discussing the paper, said his experience with fractures showed great intolerance of bone, especially of sound bone, to surgical interference.

Leprosy.—Dr. Joseph C. Greene read the paper, which treated of distribution, etiology, forms, and referred to treatment. The distribution was shown by a map. He accepted the view that the disease was contagious, due to the bacillus lepra, that it was hard to stamp out when it once gained access to a country, and thought there should be strict quarantine. It ran a fatal course usually in from ten to twenty years, the tubercular form usually in ten years, but in the Sandwich Islands in three to five years. The committee under the auspices of the Prince of Wales was now likely to throw light upon the etiology and treatment.

The Use and Neglect of Blood-letting.—Dr. Homer O. Jewett, the author, remarked that changes in treatment were not always based on sound science, but were due to the tendency of fashion to swing from one extreme to another. This, he thought, was the explanation of the fact that the lancet had fallen almost completely into disuse, unless in the hands of the old physicians. His experience with it had been in about twelve cases of puerperal eclampsia, in pneumonia, and acute inflammation, especially where there was turgescence of the blood-vessels. But he had had no experience in blood-letting for a name instead of a condition. Blood-letting had been employed by him in apoplexy with flushed face, in concussion from traumatism after reaction; he had even cured acute mania by a few bleedings from the temporal artery. He had never regretted the use of the lancet, but had often regretted not using it.

Dr. Darwin Colvin endorsed the paper fully, and emphasized the value of bleeding in puerperal eclampsia.

The Psychical Aspects of Insanity.—Dr. John Shrady, of New York, in his paper upon "The Psychical Aspects of Insanity," reasoned upon the hypothetical basis that the emotions were entities and should be treated as personalities. He maintained that the passions underwent stages of progress, and that by perversion might become dangerous; as, for example, rage might degenerate into murder, and self-complacency might run into the delusion of omniscience. Society, as was taught, appealed to the individuality, whereas in savage life, along with a paternal form of government, the system of communism prevailed. He believed in treatment that the principles of Dr. Chalmers's phrase, to wit, "the expulsive power of a new affection," should be followed out; in other words, that one mood should crowd out another and more dangerous one. This was the father of the idea of substitution, based upon the fact that recreation came from the alternating rest of opposing muscles. Concentration was to be avoided by all means, diversion being the rule. He thought that there was something in the swing of the pendulum, as typified in Ophelia, who was made to sing ribald songs which no modern audience would tolerate, notwithstanding the exquisite music with which they were accompanied. So Hawthorne makes his guilty clergyman yearn to hiss oaths into a sailor's ear.

He also called attention to the intense individuality of the lunatic, who was to be managed especially upon that line. His vanity might be flattered with the excusable purpose of gaining his confidence, so that he might unbosom himself and thus expose the character of his hallucinations. In the study of the subject he had omitted the consideration of all somatic causes, simply because knowledge was to be gained through the medium of words. He did not touch upon medication in its restricted sense, because he believed hygiene and variety of employment or amusements by far the best course.

An Office Battery.—Dr. William H. Robb described the battery employed in his office, which he had selected for its simplicity, range of capacity, and quality of work. The field for electro-therapeutics was becoming constantly wider.

In Abortion, what of the Placenta after the Second Stage?—Dr. Darwin Colvin answered this question in a paper, by the statement, remove it, if uterine contraction will not do it, at once, or as soon as possible after expulsion of the fœtus.

Dr. A. L. Carroll fully concurred in the advice not to leave the patient until the placenta had been removed, and was not aware but what such was the universal teaching until Dr. Colvin showed very plainly that it was not.

Dr. McLeoud also believed in removing the placenta at once, but surprised some in saying he had not seen a death from their retention.

Some Functional Disorders of the Nervous System of Women.—Dr. T. J. McGillicuddy, in this paper, related a number of cases of hystero-epilepsy (he had seen fourteen in all), and also a few of catalepsy. The globulus hystericus was, no doubt, in some instances at least, accompanied by a local congestion and swelling.

Other papers were read by title.

Officers Elected.—*President*, Dr. Stephen Smith, of New York; *Vice-Presidents*, according to districts, Drs. Douglas Ayers, A. T. Van Vranken, J. D. Tripp, and R. J. Merizin; *Council*, Drs. W. D. Gavlock, J. B. Harvie, George Douglas, T. D. Strong, A. L. Carroll; *Secretary*, Dr. E. D. Ferguson, who was also to act as treasurer, the committee making no nomination to fill vacancy left by resignation of Dr. Hinton.

Dangers of Medical Practice in Spain.—A doctor's life is not a happy one in Spain just now, an ignorant and superstitious population having testified to their dislike for sanitary precautions by assassinating three medical officers in the discharge of their duties. Apart from these regrettable and disgraceful occurrences it has been found necessary to send soldiers along with the medical officers on their errand of mercy, though even this precaution does not seem to have secured them against personal violence in many instances.—*Hospital Gazette.*

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

AN ANOMALOUS PUERPERAL CASE—A SUCCESSFUL OPERATION FOR TUBERCULAR DISEASE OF THE HIP—FATAL DYSPNŒA FROM A CASEOUS GLAND IN THE TRACHEA—MYELOID ACROMIAL TUMOR—TRAUMATIC SCIATICA CURED BY OPERATION—SHORT-HAND FOR MEDICAL STUDENTS.

LONDON, October 18, 1890.

THE Obstetrical Society has been the first to commence work for the winter session. At the opening meeting Dr. J. B. Hurry read a paper in which he gave an account of a case of erysipelas occurring in association with labor and presenting some interesting features. The patient was a multipara, aged thirty-five, who, when two weeks from full time, was suddenly attacked with severe headache, shivering, and pains in back and limbs; the skin was hot and the pulse rapid. Delivery occurred suddenly, twelve hours from the onset of these symptoms; there was slight *post-partum* hemorrhage. Two days later on erysipelatous eruption appeared; it was symmetrically placed in front of each ear and pitted on pressure. It spread over most of the face, but there was no sore throat, the temperature was only 102.5° F., and the lochia were normal. As the constitutional symptoms were severe, suckling was discontinued on the fourth day. There was no albuminuria. There were no pelvic symptoms, and the author thought that this had been obviated by applying antiseptic pads to the vulva. He regarded the premature delivery as due to the erysipelas. On the twentieth day the patient was apparently much better, but there was a serous discharge from, and deafness of, the left ear. She was suddenly seized with epileptiform convulsions involving the whole body. There was total loss of consciousness; dilatation of pupils, with no reaction to light, and abolition of conjunctival reflex; slight foaming at the mouth; involuntary passage of urine. Consciousness partly returned in an hour. In the course of the next forty-eight hours twenty-five more fits occurred—becoming at the end less severe. There was no albuminuria. Chloral was given by the rectum and chloroform by inhalation. At the end of forty-eight hours the fits ceased and the patient improved, but complained of headache. There was no impairment of mental power. The discharge from the ear ceased and hearing became normal. On the thirty-fourth day the patient was well. Dr. Hurry thought that the interval of nineteen days between delivery and the outbreak of eclampsia was noteworthy, also the fact of recovery after twenty six fits and the non-occurrence of albuminuria.

Dr. Braxton Hicks remarked that the exact relationship between zymotics, erysipelas, and puerperal fever, so called, had yet to be made out. He thought it most likely that in the bad cases, similar to those seen in hospitals formerly, there were two poisons acting concurrently.

Dr. Herman said that Dr. Hurry took it as established that erysipelas was one of the causes of puerperal fever. Fehleisen had shown that cutaneous was quite different from phlegmonous erysipelas; he had himself no doubt that the latter was one of the diseases included under the term puerperal fever. This was the disease which Virchow had called erysipelas malignum internum. Gusserow had shown that cutaneous erysipelas produced only the same disease in a lying-in as in any other patient. He had himself seen a cutaneous erysipelas in the lying-in woman, and also in the infant, running its ordinary course without producing puerperal fever. He agreed with Dr. Braxton Hicks that cases in which patients appeared to suffer from erysipelas and from septicæmia were cases of mixed infection, in which the poison of both diseases had been received by the patient.

Dr. Boxall drew a distinction between facial, and, as it might be termed, pelvic erysipelas. He thought they were both due to the same cause, and that facial erysipelas might be transmitted to the pelvis either through the tissues or by escaping from the body and being reintroduced into the genital tracts.

Dr. Amand Routh said he thought that, as there was distinct evidence of otitis, the convulsions were due to a transient meningitis secondary to the erysipelas, and were not in any etiological sense puerperal.

Dr. Hurry dissented from Dr. Routh's conclusion, and said he thought the character of the fits, as well as the subsequent history of the patient, pointed to true eclampsia; he regarded the discharge from the ear as due to facial erysipelas.

The first meeting of the Clinical Society for the winter session took place last week. Mr. W. H. Battle read notes of a case (a child of six) in which suppuration of the left hip-joint—believed to be tubercular in origin—was treated operatively with very good results. The joint was opened by means of the anterior (Barker's) incision and a large quantity of pus evacuated. The capsule was swollen and softened. A hole the size of a pea was felt in the anterior aspect of the neck of the femur just below the upper epiphysis. This was scraped out with a sharp spoon (after enlarging the original incision and everting the femur) leaving a mere cylinder of bone to support the head of the femur. The cavity and the interior of the joint were both washed out with chloride of zinc (1 in 30) and perchloride of mercury. Deep catgut sutures were then inserted without any drainage, the wound dressed with sal alembroth gauze and wool, and a long splint applied (with extension). The dressings had to be changed twice within the following week owing to their becoming saturated with urine. Within four weeks from the date of the operation the patient could walk without pain or lameness, and the splint was removed. A large firm swelling which had been present in the hypogastric region finally disappeared, and it was supposed that the repeated manipulations to which it had been subjected had caused its absorption. The patient was subsequently readmitted with typical strumous abscess of the right supracondyloid region. There was a sinus over the position of the lowermost stitch on the front of the left thigh, and the patient appeared neglected, but the movement of the joints continued in every respect perfect.

Mr. Howard Marsh thought the case admirable, but was it pyæmic or tubercular? Mr. R. W. Parker said he thought a good deal of the credit of the case arose from the after-treatment, which—thanks to the method introduced by Mr. Barker—had of recent years been much improved. The same kind of operation, viz., opening, scraping, and sewing up, without a drainage-tube, had been done in many cases at the Shadwell Hospital, and the results had been good in spite of the unfavorable material on which they had to work.

Mr. Battle, in replying, said that the slow course of the disease, the fact that on the opening of any of the abscesses the temperature at once fell to normal, that the child seemed to be scarcely so ill as one usually found a child suffering from pyæmia, the microscopic characters of the growth in the hip, and the later manifestations—especially the abscess of the supracondyloid gland—caused him to regard the disease as tuberculous rather than pyæmic.

Mr. R. W. Parker then read an account of a case of urgent dyspnœa in an infant, aged twelve months, due to a caseous gland which had made its way into the trachea by ulceration. The symptoms were very acute and the case terminated fatally in an hour and a half, although tracheotomy had been performed.

Mr. Bland Sutton then gave an account of a case in which he had removed the acromial half of the right clavicle for myeloid tumor occurring in a woman aged twenty-six. He had, he said, been able to find no other example in modern literature of a myeloid tumor similarly located. He remarked that great care should

be exercised in reporting cases of resection of supposed myeloid tumors, for many endosteal sarcomata mimicked them, and to remove one of the latter and report it as a myeloid tumor would throw discredit on one of the most conservative of surgical operations.

In a second communication to the Society, Mr. Sutton gave particulars of a case of severe sciatica (following upon a dislocation of the left hip, which occurred at sea and could not be reduced for some time) which was cured by cutting down through the gluteus and removing a splinter of bone, fifteen millimetres long, which was found at the edge of the sacro-sciatic foramen in such a position that its point pressed into the nerve when the limb was extended.

With a view of encouraging the study of short-hand among those entering the profession, a voluntary examination in the subject will again be held this month, for which all first-year's students can enter. A prize of five pounds is offered to the most proficient student. A second prize of similar amount is also offered for proficiency in using the art in note-taking, etc.

POST-GRADUATE STUDY ABROAD.

To the Editor of the Medical Record.

Sir: I notice in your number of October 4th a paragraph entitled "The Proper Place for Foreign Study," and think I can show that American physicians gravitate to Berlin and Vienna, because they have incomparably better opportunities for study and practice in those cities than they can have in Liverpool, London, or Edinburgh. The writer in the *Medical News*, August 30th, would change his tune if he read the catalogues of the Universities of Berlin and Vienna for the present semestre. Allow me to instance the work performed five days of every week, for six weeks, by an American in Vienna, and many Englishmen and Scotchmen do the same.

From 8 to 9 A.M., Operations on the Eye, Dr. Bergmeister; 9 to 10 A.M., Klinik, Dermatology, Professor Kaposi; 10 to 11 A.M., Laryngology, Professor Schrötter; 11 to 12 A.M., Otology, Professor Politzer; 12 to 1 P.M., Diseases of the Eye, Professor Reuss; 2 to 3 P.M., Skin and Syphilis, Dr. Lustgarten; 3 to 4 P.M., Surgery, Dr. Maydl; 4 to 5 P.M., Diseases of the Bladder and Urethra, Dr. Grünfeld; 5 to 6 P.M., Obstetrical Operations, Drs. Lihotsky and Rosthorn; 6.30 to 9 P.M., Physical Examination and Diagnosis, Dr. Kovacs; besides which he sometimes remained throughout the night at Braun's or Breisky's dormitories, when there was something interesting in obstetrics. A second five weeks were occupied as follows: 7 to 9 A.M., Internal Medicine, Professor Nothnagel; 9 to 10 A.M., Gynecology, Professor Rokitansky; 10 to 11 A.M., Diseases of Children, Professor Monti; 11 to 12 A.M., Diseases of the Urinary Organs, Professor Ultzman (died, 1889); 12 to 1 P.M., Diseases of the Nervous System, Professor Benedikt; 2 to 4 P.M., Pathology, Professor Knudrat; 4 to 5 P.M., Surgical Diagnosis and Operations, Dr. Maydl; 5 to 6 P.M., Diagnosis and Treatment of Diseases of the Ear, Dr. Gomperz; 6 to 7 P.M., Medical Pathology and Therapy, Professor Drasche; 7 to 9 P.M., Gynceology, Operations on the Cadaver, Dr. Erlach.

In this manner one can go on changing every few weeks without intermission, and may also secure good practical courses to fill up part of Saturdays and Sundays.

The professors and assistants are exceedingly obliging and courteous; all speak French and many English, and several courses are given in the latter language, and one who understands a teacher imperfectly can usually obtain enlightenment from a neighbor. Holidays and spare hours can be spent in the laboratories of Professors Obersteiner, Schenk, or Weichselbaum.

Everything is eminently practical, material abundant, and cost reasonable, and one loses no time in going from one to another, as all the courses and clinics are in the General Hospital or the Poliklinik near by.

Professor Widerhoffer gives an excellent course at the Child's Hospital, ten minutes distant, and his able assistant, Dr. Foltanck, also.

A programme may be arranged in advance for a year or more, during which one can hear and see operate Professors Billroth, Albert, Stellwag, Fuchs, Gruber, Kahler, Braun, Chrobak, Stoerk, Schnitzler, Meynert, and many others.

Edinburgh presents better inducements for the American than London, because most of the courses are given at the Royal Infirmary, but the post-graduate course there only lasts five weeks. In London too much time is lost in going from place to place, so that one cannot hope to see as much in the post-graduate course there.

At Paris the same difficulty arises, but Dr. Baratony has been instrumental in organizing a staff of twenty professors for the new Policlinic, and in time the advantages presented will attract more Americans thither.

I should state that at Vienna, besides the regular Semestre Vorlesungen by the professors noted above, at the General Hospital, where each has his own clinic, there are special courses given by their assistants, many of them as able as their masters. Some of these courses continue through the vacations. In surgery there are seven courses; in internal medicine, eight; in laryngoscopy, six; in otology, three; in ophthalmology, five; in dermatology and syphilis, six; in diseases of the nervous system, three; in obstetrics and gynecology, six; in pathology, three; and in diseases of childhood, three; so that a man studying a specialty may spend the whole day in its pursuit and have plenty of material to work on.

At the Vienna Poliklinik many extra courses are given by competent assistants to the professors, and some are given in English. Professors Hebra, Benedict, and Günfeld all speak English well, and the courtesy and consideration shown to Americans by every professor, docent, and assistant is remarkable.

R. F. Macfarlane, M.D.

Albany, N. Y.

ACUTE EPIDEMIC PHARYNGITIS.

To the Editor of the Medical Record.

Sir: After reading in the Record of October 25th, that "grip" is rife again, I would beg to state, that I have been lately obliged to examine several throats for the cause of a violent paroxysmal cough, and found the lower pharynx more or less congested, and in seven cases the capillary vessels standing out in relief, forming a remarkably distinct net-work. This was the only lesion to be positively discovered, and in the beginning, if not sought for, would not be recognized even with the laryngoscope, as in one of my cases, in which, later on, the lesion could be distinctly seen without any instrument. This condition I called simple acute epidemic pharyngitis.

The symptoms observed were as follows: Paroxysmal explosive attacks of coughing. The beginning of an attack would be marked by a sensation of smothering, as if in a smoky room; then followed "a hem!" succeeded by a cough which would increase in severity until the sufferer became almost exhausted, and in one till he "feared he would cough up all the bones of his throat." The night was dreaded on account of the increased liability to attacks. There was little or no expectoration until the patient was getting better, after three or four days, or was effected by sedatives, and then only a little mucus. When the coughing aggravated the inflammation, it seemed to travel toward the larynx and produce hoarseness. When a caustic application was the cause of aggravation it mounted toward the fauces. In a case where such an application was made, the sufferer complained next day of a pricking pain in the throat on swallowing, and examination showed the vessels gorged behind the right posterior pillar of the fauces. The pulse was rapid in all—120 in one, with temperature of 101° F. Tongue had a moderately thick, white fur. Inappetence

and constipation, but rarely vomiting, were the rule. The urine, which in one case held a very heavy brick-dust sediment, was not examined. The highest temperature I found was 101.4° F. Transpiration was easily provoked in all. Nervous symptoms were such in two cases as to render the sufferers completely prostrate. There were headache from coughing and insomnia. One patient complained of pain above the xiphoid cartilage. This was not aggravated by breathing, coughing, or movement, and he had been vomiting, so I attributed it to gastric disturbance. The treatment consisted simply of a sedative internally, and a spray or gargle of chlorate of potash and carbolic acid; or chloride of ammonium 1 to 500, and bichloride of mercury 1 to 5,000. By this means the encroachments were removed in twenty-four hours or less, though the cough in some degree persisted.

A strange fact was observed, that smoking would not at the time provoke a paroxysm. On this subject Flint[1] says, "Simple acute pharyngitis occurs as an epidemic affection, sometimes prevailing greatly and widely. It prevailed to a considerable extent in this city (New York) during the spring of 1864. It resembled influenza, save that the pharyngeal, and not the bronchial, mucous membrane was the seat of the local manifestation."

In the *Buffalo Medical Journal*, vol. xii., p. 718 *et seq.*, will be found a description of the disease as studied by Professor Flint, Dr. Rochester, *et al.*, in 1857.

Yours very truly,

J. J. E. MAHER, M.D.

NEW YORK.

DERMATOLOGICAL INSTRUCTION IN AMERICA—REPLY TO DR. FOX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the last issue of the MEDICAL RECORD Dr. George H. Fox calls into question the strict truthfulness of the statement, quoted in your editorial remarks from my address on "Dermatological Instruction in America," viz.: "There is no medical school in this country in which the study of diseases of the skin is obligatory, in none is a knowledge of this important branch of medicine required as a condition of graduation," etc.

Commenting upon the above Dr. Fox says: "In the College of Physicians and Surgeons of this city the study of diseases of the skin is obligatory. No student is allowed to graduate there without passing an examination in this important branch, while the professor in this department is not only allowed but required to conduct this examination, the result of which decides in a measure the student's qualification for a degree."

I should be sorry if my remarks had done injustice to any medical school, especially to such a time-honored institution as that of the College of Physicians and Surgeons. I elsewhere stated in the body of my address "that the College of Physicians and Surgeons of New York has made the concession of allowing a single question relating to skin and venereal diseases to be proposed by the professors in these departments, but this is notoriously insufficient to test the knowledge of the student."

This statement was based upon information relating to the conditions of graduation contained in the "Annual Announcement and Catalogue of the College of Physicians and Surgeons, June, 1890." On page 25, under the section "Examinations" it is stated "that the examination in the topic of 'Clinical Studies' comprises one question in each of the following subjects (including skin and venereal diseases) set by the Clinical Professor thereof." Now, whether "one" question "set" by the Clinical Professor of Skin Diseases constitutes an "examination," in any proper sense of the word, or enables him to judge of the student's knowledge of this important branch, is open to question.

Dr. Fox's assertion that the result of this examination decides, in a measure, the student's qualification for a degree is not borne out by the clause following (page 25), in which it is expressly declared that "candidates are not 'conditioned,' however, in the topic of 'clinical studies.'"

I am, etc.,

PRINCE A. MORROW, M.D.

NEW YORK, October 25, 1890.

[1] Practice, ed. 1881, p. 452.

WHICH WAS THE FIRST POST-GRADUATE SCHOOL IN NEW YORK?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of October 25th, under the heading of "The London Post-Graduate Course," there occurs: "Six years ago the New York Post-Graduate Medical School was incorporated, and it must be with no little satisfaction that the founders now read of the establishment of the London Post-Graduate Course," etc. "We send our felicitations to the London School, and wish it a like success to that which the parent school here has had."

No doubt the London Faculty will be pleased to receive the felicitations of your paragrapher, for the felicitations of the RECORD are not to be disregarded or despised; but won't you please to remember, when you next send congratulations to London, that there is another school of Clinical Medicine and Surgery in New York City (the same city in which the Post-Graduate School is situated, and in which the MEDICAL RECORD is published), which school was organized in 1881, while the gentlemen who afterward organized the Post-Graduate School were still Professors in the Medical Department of the University of the City of New York, which school was opened in 1882, and has had, up to August, 1890, two thousand two hundred and fifty-five physicians as students (a larger number than any similar institution west of the Atlantic Ocean), and which school is the New York Polyclinic, with a *Y*.[1]

In one of your editorials, p. 408, RECORD of October 7, 1882, it is written: "The most successful polyclinic will entice the greatest number of students, and will lay the foundation for the most successful post-graduate school." Prophetic RECORD! And yet, in sending felicitations to London, you forgot "the most successful post-graduate school" in New York. In the language of the Psalmist, "I will praise thee forever, because thou hast done it!"

SECRETARY.

[1] RECORD, October, 1882, pp. 408, 476, 752; 1883, pp. 28, 83, 168, 696; 1884, p. 129.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 19 to October 25, 1890.

GLENNAN, J. D., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month, to take effect about the 31st instant. S. O. 146, par. 1, Department of the Missouri, October 23, 1890.

JARVIS, N. S., Assistant Surgeon. Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 107, Department of Arizona, October 14, 1890.

PILCHER, JAMES E., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for four months. S. O. 244, par. 12, A. G. O., October 18, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending October 25, 1890.

CORDEIRO, F. J. B., Passed Assistant Surgeon. Detached from the Nipsic, and granted three months' leave of absence.

HEFFENGER, A. C., Passed Assistant Surgeon. Placed on retired list, October 20, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 25, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	43	7
Scarlet fever	23	2
Cerebro-spinal meningitis	0	0
Measles	74	5
Diphtheria	68	20
Small-pox	0	0
Varicella	0	0
Pertussis	1	0

The Spleen Vindicated.—So the spleen, which our forefathers looked upon as an unmitigated nuisance and of little or no use to us (and we are inclined to agree with them and throw the liver into the bargain), does some very necessary and highly useful work. The modern scientists would no doubt agree with Pliny, that people who got rid of the spleen by the way of incision or burning with a hot iron would lose their laughing, but their observations have led them to believe that its retention, as an assimilator and constructor of new blood-elements, especially the white blood-globules, which act as runners in bringing health-destroying germs to bay, is preferable to its destruction.—*The Hospital.*

Hints to the Unfortunate.—A few suggestions, culled from accounts in the daily press, of recent cases of accidental death may prove of service to those who are not ingenious enough to think of them for themselves: 1. Mix some coarse flour and strychnine to kill the rats with, then place the mixture in a jar, similar and as near as possible to that containing the family oatmeal. 2. Place some laudanum in an empty medicine bottle, and stand it alongside a bottle of physic on a table by your bedside; take a dose, from the nearest bottle, in the dark; ten chances to one it's the laudanum. 3. Pour some carbolic acid into a beer-bottle, cork it, and put it aside in a cool spot; the next person who comes along with "a mouth on him" will find it a vast improvement on common or ginger beer. 4. Smear a piece of bread with phosphorus paste (Rough on Rats) and leave it in a cupboard well within reach of marauding youngsters; if their lives are injured, you will have no reason to regret the experiment.—*Hospital Gazette.*

Photography at the Morgue.—In the various morgues of this country it has been found necessary to photograph the bodies as soon as practicable. The old method of exposing them on marble tables covered with ice was found very troublesome, and as mortification set in rapidly the object of this exposure was in many cases defeated. Under the new system sixty-seven per cent. of those received last year were identified. Not only the bodies are photographed but all of the clothing and small articles found upon the body. The grave then being numbered to correspond with the photograph renders identification easy. This is a great improvement, and we are glad to know that the poor unfortunates, after a woful and tragic life, are not kept on the threshold of the grave exposed to the curious gaze of the vulgar sensation-seeker.—*Gaillard's Medical Journal.*

Megalocephalia, or Swelled Head.—The *Maryland Medical Journal* discusses editorially the two varieties of this disorder. The congenital variety is so well known that it requires no notice. Concerning the acquired type of the disease, it is said that it affects persons of moderate abilities who have been suddenly, through the influence of friends, raised to positions of eminence and responsibility. It is said that cases are frequently observed among railroad officials or custom-house officers, and that they are occasionally met with in the Health Departments of our cities and States. The brains of the unhappy subjects of this sad complaint were formed and educated for the performance of quiet, unexciting labor in the small trades, and their possessors did well and respectably in such spheres of life. Being suddenly elevated, through politics or similar influences, to posts of great responsibility for which they were in nowise fitted, their brain-cells were unequal to the strain, and various unhealthy forms of thought and action made their appearance. They began to act as if they were bosses, instead of servants, of the public, and as if mere perfunctory performance of their duties rendered them sacred and above criticism. The prognosis in this form is very unfavorable, hopeless in the congenital variety, hopeless in the acquired variety, unless the patient quickly returns to his former sphere and stays there. Apart from this all treatment is useless.

Are Children Happy?—People have a great deal to say about the happiness of childhood, but they are grown up before they say it. For, after all, children have a harder life of it than their elders do. To begin with, there is the constant discipline life gives them in such Scripture measure—the things they want and are forbidden to have; the things they do in ignorance to be punished for without clearly understanding the offence; the imaginative terrors of darkness and evil spirits and unknown powers, to say nothing of an offended Deity who is angry when they eat too much bread and jam. And then there is the school with its hard discipline of having to study Chapter XX. in the big book of learning, which is the Long Division, when their legs are aching to be at Chapter XLI., which is playing "tag" on the village green. And there is their wondering misapprehension of their elders and the vague but awful sense of suffering they have at hearing impending calamities spoken of, which they can apprehend as sharply as their elders, but which they see no earthly means of escaping—the possible death of a dear one, a coming scourge of disease, the loss of money, or the end of the world. And there is—oftener, perhaps, than all else—the sharp grief of being misunderstood; of having their thoughtlessness and ignorance taken for wilful disobedience; of feeling their natural, healthy fearlessness taken for pertness and forwardness; of having, even their very love thrust aside because it is manifested at an inconvenient moment—of finding themselves, in short, in a great big world, where everything is to be learned, and where the only persons who can teach them are most given to bejuggling and bewildering them.—*The Sun.*

The Increase of Insanity in Germany.—The number of lunatics in the asylums of the city of Berlin, which was 1,582 in 1882–83, amounted to 2,528 in 1889. This shows a very large increase in the number of insane persons relatively to the growth of the population. In the period referred to the increase in the population was 22.49 per cent., while the increase in the number of lunatics was 59.79 per cent. The number of insane persons in confinement in the whole German Empire rose between January 1, 1881, and the same date in 1886, from 34,270 to 42,669, being an increase of 24.5 in the five years, as against an increase of 3.6 per cent. in the general population in the same period. The increase of insanity in Berlin has made it necessary that a new public lunatic asylum should be established. The building, which is to accommodate 1,000 patients, will be situated in the easterly suburb of Lichtenberg. The city of Berlin already maintains an asylum with about 1,200 inmates at Dalldorf.

Water a Preservative.—After some forty years of immersion in the waters of the pool of Echoschacht, not far from Hermannstadt, several human bodies have been brought to the surface in a state of perfect preservation.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 19.
Whole No. 1044.

NEW YORK, NOVEMBER 8, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

SOME PRACTICAL CONSIDERATIONS ON THE NATURE AND INDUCTION OF THE HYPNOTIC STATE.[1]

BY J. LEONARD CORNING, M.A., M.D.,

NEW YORK.

CONSULTANT IN NERVOUS DISEASES TO ST. FRANCIS HOSPITAL, JERSEY CITY; THE HACKENSACK HOSPITAL, ETC.

AN immense deal of labor—and most honorable labor it is, too—has been expended in the elucidation of the physiological and pathological questions connected with the nervous system. The literature which has grown out of these efforts is overwhelming both as regards magnitude and complexity; but, what is equally apparent, is the fact that much of this matter is of but temporary importance, if it be not altogether ephemeral. This lack of fixity in theory finds an appropriate counterpart in the mutability which pervades the whole realm of neurotherapy, or at all events the greater part of it. Of late years this state of affairs has been provocative of wide spread discontent in the profession; so that at present there is discernible a strong tendency, among practitioners at least, whatever may be said of the devotees of the laboratory, to lay hold of any procedure which offers a chance, however insignificant, of adding to the curative resources of this important field.

It is this reversion to the practical side of neurology which explains in a measure, I think, the extraordinary interest which medical men are manifesting, and will doubtless continue to manifest, in the question of hypnotism.

Whether hypnotism is to maintain a permanent position among the agencies at our command for alleviating human ailments, and especially those which affect the nervous system, time alone will reveal. For us the fact remains that a mass of data bearing on this question is at hand, and is being added to every day; so that the time cannot be far distant when the profession will be called upon to express itself with somewhat more decision on this important topic. It will, therefore, not be time misspent, I fancy, if medical men at large concern themselves, at least in a general way, with the more salient phases of hypnotism.

It is impossible, in a paper of such brevity, to review the history of those psychical phenomena which are collectively known to us to-day as hypnotism. I shall, therefore, be as brief as possible, confining myself strictly to fundamentals.

To begin the argument, let me state that the old doctrine of Mesmer, the charlatan, that the manifestations of hypnotism are due to a magnetic fluid, all pervasive in character or emanating from the human organism, has been universally discarded by the scientific experts of our day. In its place we have the theory which finds in suggestion the chief, if not the exclusive, cause of the phenomena. Braid, of Manchester, was the first to clearly expound this doctrine (1841). He showed that the hypnotic condition and all cognate phenomena are purely subjective in character and origin, being one and all the outgrowth of an exalted condition of the imagination. Now, this exaggeration of the imaginative faculties, which is so characteristic of hypnotic states, is brought about by the total, or almost total, suppression of those faculties which, under normal circumstances, serve to counteract or hold the imagination in check.

Practically, this suppression of the judgment and will, more particularly the latter, may be attained by causing the subject to direct his whole attention to the contemplation (fixation) of a brilliant object; and, if the latter be so placed as to cause some strain of the upper eyelid, the effect will be all the more certain. The phenomena which may be evoked in this way are, after all, not so difficult to account for, if we but bear in mind that the more developed and untrammelled the imagination, the greater is the sensibility of the subject to all promptings or suggestions, whether the latter originate in his own mind spontaneously or are placed there by others. We see this in healthy imaginative persons every day.

Now, the prolonged fixation of a bright object is fatiguing to the muscular apparatus of the eyelids (especially if the object be placed at some height above the head of the subject); and, besides—what in my judgment is far more important—it is exhausting to the central perceptive mechanism in the brain. Moreover, these two kinds of fatigue are not only direct, but also indirect, promoters of drowsiness, insomuch as they suggest to the subject the thought of sleep. Thus we see that in the very induction of the hypnotic state suggestion is a valuable ally. It only remains to add in this connection, that the intense fixation of the attention, which frees or exalts the imagination sufficiently for the purposes of hypnotic suggestion, may be obtained through any one of the special senses, though certainly not as well by the aid of taste and smell as through sight and hearing. Hence the efficacy of monotous sounds or passes in inducing the hypnotic state, especially if the subject be told that these things produce drowsiness. But, even if nothing on this score be intimated by the operator, the things themselves are sufficiently suggestive of sleep to facilitate the hypnotization of the subject. So much, then, for the principles involved in induction of the hypnotic state. And now, let me offer a few remarks on the various degrees of the hypnotic state, for the latter is capable of wide variations.

Though the classifications presented by different authors have their advantages, I regard the arrangement of the phenomena adopted by Liébault as theoretically commendable, and perhaps, on the whole, as practical as any heretofore proposed.

Classification of the Degrees of Hypnotic Influence, Proposed by Dr. Liébault.—The degrees of hypnotic sleep recognized by Liébault are six in number. The first is characterized by more or less drowsiness; the second by what is termed suggestive catalepsy; the third by rotary automatism; the fourth by the relation of the subject through the sense of hearing, solely to the operator; the fifth by what is known as minor somnambulism; and the sixth by profound somnambulism.

Let me explain at once what is meant by the terms catalepsy and somnambulism, as employed in connection with hypnotism. By catalepsy we mean that condition of the subject in which he is compelled to maintain his limbs in any position in which the operator may place them. In some cases, the mere act of holding the limb in the desired position suggests the idea to the subject that he is to maintain it there; and this suggestion is often forcible enough to cause the limb to be held in

[1] Read by invitation at the joint meeting of the White River, New Hampshire, White Mountain, and Connecticut River Medical Societies, July 31, 1890.

place. Sometimes, however, the mere holding up of the limb is not sufficiently suggestive to bring about this result; and hence we are compelled to resort to the more lucid and forceful expedient of verbal suggestion. We then say to him: "Keep your arm up," "Shut your eyes," "Hold your foot up," etc. These are facts with which all who have devoted any study to the subject of hypnotism are familiar.

And while we are considering this point, let me remark that two kinds of suggestions are possible through the agency of hypnotism: In the one case we may suggest acts to the subject, during the hypnotic state, which are to be realized while he is in that condition; while in the other we may say, "This or that will occur to you," or "You will see or hear this or that" at some future time. The acts and hallucinations which are to take place during the hypnotic state may be suggested to the subject while he is under a minor degree of hypnotic influence; but the post-hypnotic acts and hallucinations, to be successful, must be suggested while he is in that profound condition of hypnotism called somnambulism. And now, let me explain what we mean by this term in its hypnotic sense. By somnambulism we mean that phase of hypnotism which is characterized by complete forgetfulness on awakening of everything which occurred while the subject was asleep.

Let me enumerate a little more fully the phenomena which Liébault has indicated in his excellent classification.

During the first stage of hypnotism, according to Liébault's classification, the subject evinces more or less drowsiness, which condition of lassitude may be evanescent in character, or it may persist for some time. Even when there is no sleep, in the ordinary sense of the word, the eyelids remain closed, and there may be inability to open them, especially if the brow has been touched by the operator in the manipulations incident to the induction of the hypnotic state.

The second stage is characterized by the evolution of cataleptic susceptibility. It is true that the tendency to catalepsy may not be apparent at once. We may place a limb, say the arm, in a given attitude, and, instead of maintaining it, the arm resumes its original position. If, however, we try the same experiment several times, adopting the precaution to support the limb in the intended attitude for a few moments, the latter is often maintained for some time.

All the phenomena are more pronounced in the third stage, and, in addition to the catalepsy, what are known as automatic movements are added. These are nothing more than continuous rhythmical motions, which may be suggested to the patient quite like other acts. Thus we cause his hands to describe circles around each other, and then intimate that he cannot cease the manœuvres; and, sure enough, the motions are continued almost indefinitely, or till the muscles concerned are exhausted. It is a remarkable fact, however, that, while all this is going on, the subject is able to hear and interpret what is said by those about him.

What Liébault calls the fourth degree is nothing more than a slight modification and intensification of the preceding stage. During its supervention, the subject is no longer, strictly speaking, in juxtaposition with his environment. The words of persons about him are not heard, or rather, only those of the operator are perceived.

In the fifth degree we have the inception of somnambulism; that is to say, the memory of the patient for what has taken place while he was under the hypnotic influence is much impaired.

The sixth stage marks the supervention of profound somnambulism. When the subject emerges from this state, he has no recollection whatever of what has taken place during the sleep-like state.

During somnambulism all the more extraordinary phenomena of hypnotism—hallucinations, abolition of sensibility, catalepsy, motor automatism, and hallucinations of the special senses—may be induced by the aid of suggestion.

It is natural that in the presence of such an array of startling facts, physicians of the present day should make the inquiry as to whether hypnotism may not be turned to some account in the management of diseases, and particularly nervous diseases. The question is not a new one, and has been propounded again and again, ever since Mesmer, the charlatan, exercised his unscrupulous powers over an army of confiding dupes.

The most ambitious and recent attempts to revive the use of hypnotism in neuro-therapeutics are those of Liébault, Charcot, Luys, and Bernheim.

Probably many of my hearers are familiar with the utterances of these gentlemen on this question. The limited time at my disposal does not, however, admit of an extended review of their undertakings; and I shall therefore content myself with a brief description of the salient features of Liébault's system, which, be it well understood, embodies the chief advantages of the methods of most or all other advocates of the treatment of disease by hypnotism.

Liébault proceeds, according to his admirer, Dr. Bernheim, as follows: "The patient is put to sleep by means of suggestion, that is, by making the idea of sleep penetrate the mind. The subject being hypnotized, M. Liébault's method consists in affirming in a loud voice the disappearance of his symptoms. We try to make him believe that these symptoms no longer exist, or that they will disappear; that the pain will vanish, that feeling will come back to his limbs, that the muscular strength will increase, and that his appetite will come back. We profit by the special psychical receptivity created by the hypnosis, by the cerebral docility, by the exalted ideomotor, ideo sensitive, ideo-sensorial reflex activity, in order to provoke useful reflexes, to persuade the brain to do what it can 'to transform the accepted idea into reality." Such is Bernheim's[1] picturesque description of the method of Liébault.

The next question which naturally suggests itself is: In what class of cases may hypnotism be invoked with a reasonable expectation of accomplishing something for the good of the patient? My reply is that, inasmuch as the effects to be derived from hypnotism are functional, the class of derangements in which it may possibly be applicable must also be functional. And, moreover, as a corollary to what has been said regarding the phenomena evoked by hypnotism, I would state my belief that the legitimate field for the application of therapeutics of this class is in the management of certain nervous diseases of functional origin.

In this conservative statement of the class of cases in which hypnotic suggestion may properly be invoked as a remedial measure, I differ entirely with Bernheim, who believes that the method may also be resorted to with advantage in the treatment of organic diseases. Some of the arguments which he advances in defence of this position are ingenious, I must confess, and this is notably true of the supposed case of cerebral hemorrhage, in which, while a certain number of centrifugal fibres have been destroyed, others are assumed to be intact, but refuse to perform their functions, "being stunned by the shock to the neighboring fibres." Now, it is these "stunned" fibres which Bernheim proposes to revive into activity by resort to hypnotism. Of course, the objection to all this is simply the fact that, in the vast majority of cases of organic trouble, what the physician is most concerned about is not the revival of real or imaginary "stunned" fibres, but rather the arrest of the further growth of the lesion, or its removal with the knife or by the aid of drugs, as in syphilis.

Because we do not by any means always succeed in producing an effect upon an organic lesion by the aid of

[1] Suggestive Therapeutics: A Treatise on the Nature and Uses of Hypnotism. By H. Bernheim, M.D., etc. Translated by Christian A. Herter, M.D. Pp. 206–207. New York and London, 1889.

drugs, is, indeed, rather a reason why we should *not* lay hold upon the less obvious support afforded by mental therapeutics.

Mental impressions, especially those received in the hypnotic state when the imagination is free, or largely free, from the resisting influence of the higher controlling faculties, are doubtless of great potency, but only so in a functional sense. To affirm that the organic process called multiple sclerosis may be retarded through the aid of the suggestions of hypnotism, is not to advance medicine either as an art or a science, but rather to bring it into discredit in both capacities.

In our future investigations in this realm of therapeutics, do not let us seek the impossible; let us rather go slowly about it, attaining—it is barely possible—a little less, but guarding thereby our art from the inroads of the unscrupulous. We have previously considered the principles; let us now examine the practical features connected with the induction of the hypnotic state, or "sleep," as it is often called.

Among those whose acuteness and subtle powers of analysis have enabled them to speak with authority on hypnotism, two phases of opinion are at present discernible. On the one hand, we find a number of observers, prominent among whom are such excellent authorities as Liébault and Bernheim, of Nancy, who believe that suggestion governs a large majority of hypnotic phenomena, and that the appearances, which by some are attributed to physical causes, are entirely psychical in origin. Followers of this school perceive in the strokings and passes often employed in the induction of the hypnotic state, nothing more than the machinery of suggestion—or at least not much more.

On the other hand, we find another company of investigators who, while ready to accord due importance to suggestion, still persist in ascribing the higher manifestations of hypnotism to an inscrutable something, over and above mere suggestion. Some of the most distinguished advocates of this theory are to be found in Paris. Thus we find that among the acute and learned men of France opinion is divided on this important question. There is, however, nothing new in these differences of belief; indeed, the whole history of hypnotism reveals them almost from the beginning—from the days when Mesmer, the charlatan, gave instruction in his grotesque mysteries.

In Bernheim's clinic, at Nancy, patients are hypnotized by requiring them to look fixedly at the operator or his eyes; while their expectancy is aroused by suggestions relating to sleep. "You are going to sleep," "your eyelids are heavy," "you cannot see well," "your eyes are closed," are some of the phrases which may be employed for this purpose.

Donato,[1] of Liège, believes that "the art consists in captivating the mind of the subject, in striking vividly the imagination, in seducing, charming, or subduing it." Hence, in his estimation, "the surest way to affect the imagination of a person, impose upon him a stronger will, consists in working with the rapidity of lightning, without giving him the time to reflect or recover his sang-froid. It is by surprising my subjects that I obtain paralysis, aphony, etc., without even trying to send them to sleep previously."[2]

Following out these ideas to their practical sequence, Donato has adopted several processes which he uses alternately, according to circumstances. "The principal consists in making the patient press his hands strongly on mine. Suddenly I push him backward and I quickly plunge my glance into his eyes. Surprised, he recoils, and immediately the expression of his eyes indicates to me his degree of impressionability. When I find him easily submissive to my influence, I make a circular movement with the head and body while regarding him with devouring fixity. At least twenty per cent. of the persons who submit to the proof are carried away by visual fascination, chained as by a charm, following me everywhere without trying to detach their eyes from mine."[1]

Bernheim, who is acquainted with the method of Donato, makes some ingenious comments upon it. "The fascination used for the first time by Donato has," he says, "already been described by Doctor Brémaud." Donato, who operates especially on young people, proceeds as follows: "He asks the subject to apply the palms of his hands on his own, which are stretched horizontally, and to press downward with all his strength. The attention and all the physical strength of the subject are absorbed in this manœuvre, while his concentrated innervation toward the muscular effort prevents his thoughts from being distracted. Donato looks at the young man quickly, brusquely, and very near; the operator then turns round the subject, continuing to fix and provoke him with his glance; the latter, as though attracted and fascinated, follows him with wide-open eyes which can no more be detached from his own. It is a matter of suggestion by gesture. The subject understands, by the fixity of the magnetizer's eyes on his, that his eyes must remain attached to the magnetizer's and follow them everywhere. He thinks himself attracted toward him; it is a psychical suggestive fascination, and in no way physical." Upon this nice bit of analysis Donato comments, and comments justly, I think, to the effect that Dr. Bernheim "could have added, to be complete, that the art of hypnotism consists in striking the imagination of the subject in such a manner as to convince him that he attracts him as the magnet attracts the iron, when in reality the iron possesses no magnetic physical virtue; but, on the other hand, certain men are gifted with a prodigious *moral* magnetism, and exercise an irresistible ascendancy over all the persons who surround them."[2]

Another method employed by Donato is this: "I ask the patients," he observes, "to kneel before me and to look steadily into my eyes. Standing before them, I place my hand on their foreheads and incline their heads slightly backward. As soon as they try to straighten them I direct into their pupils an imperative glance which paralyzes them, if they are sensitive to my influence. From the moment that a patient has given proof of submission by following my eyes in my first process, as in remaining nailed to the ground in my second, I can almost always make him go through the successive phases."

The method of inducing the hypnotic state by the aid of passes has already been briefly referred to. Some time ago a writer in the New York *Medical Journal*,[3] Dr. A. L. Wagner, gave an elaborate series of directions, quite fully illustrated by diagrams, for executing these passes in a systematic manner.

These passes are made as follows: "After the subject is seated with his head leaning back against the wall, both feet squarely upon the floor, the palms of the hands upon the knees, the hand of the operator is held about a foot in front of, and about a foot above the level of, the eyes of the subject, with the injunction that the subject look at the hand, and while thus looking is directed to close the eyes. The operator then begins the passes by starting in the middle of the brow, touching the forehead lightly with the tips of the fingers, carrying them outward to right and left, over the brows to the temples, some ten or twelve times. While doing this the subject is directed to keep the eyes rolled back, and to breathe deeply and regularly.

"After making the passes (No. 1), the tips of the fingers are passed down from the middle of the forehead over the cheeks, touching the shoulders, down the arm, touching the hand and, finally, the fingers. The touch must be light, that the subject may not be disturbed (No. 2). These passes are to be repeated some ten or twelve times, in easy succession; then the passes as in No. 1,

[1] The Cosmopolitan for August, 1890, pp. 446 and 447.
[2] Op. et loc. cit.
[1] Op. cit., p. 448.
[2] Op. cit., pp. 449 and 450.
[3] The Theory and Practice of Hypnotism. By Albert L. Wagner, M.D. The New York Medical Journal, May 18, 1889, p. 536.

are repeated. Then the tips of the fingers are started higher up on the head, passing down by the ear, over the angle of the jaw on to the neck, compressing somewhat the carotids, and accelerating the flow in the jugulars (No. 3). This is repeated as above, reverting to a few (five or six) passes of No. 1. Then the same passes (No. 3) are continued, but the finger tips pass down the arm and off the fingers, as in No. 2. This is repeated about ten or twelve times (No. 4).

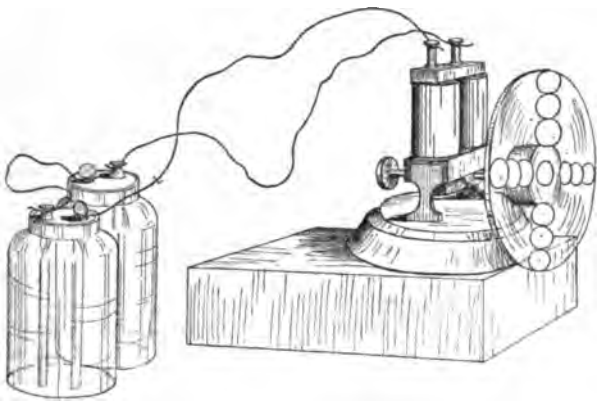


FIG. 1.

"After going over the first, second, and third sets of passes, but a less number of times, the thumbs are started over the brows, down the temples, over the angle of the jaw, on to the blood-vessels of the neck, while the finger tips pass down the back of the head over the occiput, around the neck, down the shoulders and arms, and, finally, touching the fingers (No. 5). This some dozen times, then as in No. 1 and No. 2 then repeat No. 5. After a respite of a minute or two, resort to No. 1 and No. 2 several times. Now, if the eyelid is quiet—*i.e.*, not quivering—and the respirations are deep and full, the thumb of the operator is placed over and above the origin of the corrugators, and passed down with a little pressure to a little below the junction of the nasal and frontal bones, while the finger tips start at *b*, pass down over the temple a few inches, to *c*, as in No. 6. This is repeated five or six times, with lightly and gradually increasing pressure, till there is considerable pressure being made, when the operator says: 'Your eyes are tight, you cannot open them, you cannot,' etc., and at the same time passes the fingers of the left hand rapidly down over the brow over the eyes a number of times, close to but not touching the face. This is called fanning, and is useful in confusing the subject, and often keeps the eyes shut where without it they would be opened. In four or five cases out of ten the subject is now under control. It requires one, two, or three, sometimes more, séances to 'get' the remainder of the ten.

"To awaken the subject, make reverse passes over the face and brow. A half-dozen passes usually awaken."

Luys adopts a different method, which, as he naively remarks, has the advantage of relieving the operator from all fatigue. It seems that the bird catchers of France employ in their trade a little machine, driven by clockwork, which causes two wooden arms, provided with bright pieces of glass, to revolve in opposite directions. When placed upon the ground and set in motion, the birds become fascinated or hypnotized, and thus easily fall a prey to their captors. This implement of the bird catchers is what Luys employs to hypnotize human beings, several of whom may be influenced at once. The little piece of mechanism is placed on an elevated stand in the centre of a room, and the patients, who sit about in chairs, are told to look at it fixedly. Sometimes no result is obtained the first time, but after a few trials the result is said to be more satisfactory.

I have seen and experimented a little with this instrument of Luys, and have made what seems to me an improvement on it.

The mechanism which I have devised consists, in the first place, of a small electric motor (Fig. 1), which is driven by two small zinc-carbon cells. To the axle of this motor is secured a disk of milk glass six inches in diameter. Upon the outer surface of this disk numerous glass jewels are secured with strong cement. The colors which seem to answer well are light blue, red, pink, and light green. The surfaces of these glass jewels are nicely cut so as to enhance the optical effect. Behind the disk two small lamps are placed to afford the necessary illumination; and when the apparatus is well in motion in a dark or partially darkened room, the effect produced is quite brilliant.

When the patient offers an involuntary resistance, or, from some unknown cause fails to yield readily to this mode of treatment, even when combined with verbal suggestion, I have resorted to a method which represents a combination of fixation, passes, and verbal suggestion. The details of this method are soon told. In the first place, a small electric motor—a diminutive electric lamp may be used instead—is secured upon the head of the operator by means of a cap and chin-strap (Fig. 2.) To the spindle of the motor is attached a large glass diamond. When this is revolved the effect is quite dazzling. The subject being seated in a chair—I prefer an ordinary steamer chair—is told to keep his eyes steadily fixed on the glittering diamond. As the operator faces the subject and sits close to him, he is able to resort to a variety of passes and suggestions which are likely to prove helpful. But this is not all, for the revolving diamond itself renders effective assistance in another way than by fixing the attention of the subject. This is how it operates: Owing to the proximity and elevated position of the diamond, the patient is obliged to both raise and converge his eyes in order to see it; and this dual operation is of itself provocative of fatigue, whereby the occurrence of the hypnotic state is promoted.

FIG. 2.

Summary.—In closing these brief remarks on a large subject, I cannot refrain from entering a protest against the quixotic exaggerations which are gaining a foothold in this interesting field of investigation—not so much through the efforts of charlatans as of physicians of accredited standing. For example, in looking over the pages of a recent number of *The Fortnightly Review*,[1] I

[1] The Latest Discoveries in Hypnotism. By J. Luys, Physician to La Charité Hospital, etc. The Fortnightly Review, August, 1890, pp. 176, 180, and 182.

find certain statements which are alike opposed to the philosophy of the biologist and the instincts of the practical physician. The clauses to which I take exception are those on the "Influence of chemical and other substances," the "Influence of magnets," and the "Psychic influence of magnets." Most, if not all, of the phenomena described in those paragraphs may be explained by the aid of involuntary or auto-suggestion. True, it is not always easy to trace the manner of the suggestion; but, on the other hand, the enormous influence of suggestion in the induction of hypnotic manifestations has been shown so often that there is no reason to question its causal relation to one class of phenomena more than another. Our position in this regard is rendered the more certain when we remember that the phenomena which a superficial logic ascribes to some occult power exercised by magnets and chemicals—the latter carefully enclosed in glass bottles—may all be invoked by imitations. Thus a wooden magnet or a bottle filled with cotton or carbon, or even quite empty, will answer instead of more "potent" material, so long as the subject, either consciously or unknown to himself, harbors a suspicion that somehow these things are endowed with special attributes. What those attributes are assumed to be, the conduct of the operator is pretty sure to reveal; or if they be not altogether revealed, a hint more or less definite is pretty certain to be given. The suppression of such involuntary suggestion is almost impossible; since even though the operator may be able to control both voice and physiognomy, the acts which he performs are themselves suggestive. As regards "transference," *i.e.*, "the transmission of the nervous state of a diseased subject to a subject hypnotized by means of a magnetic rod,"[1] I must confess that I am sceptical not so much of the appearances themselves as of the alleged causality involved. Whenever and wherever several persons are hypnotized, either at once or successively, the phenomena are always greatly modified by the subjects themselves through involuntary imitations of each other. More than this, the susceptibility of a person to the hypnotic influence may be enhanced if he be present when others are being hypnotized. Hence it is manifest that a hypnotized person may be influenced by those who are in the same condition, or by those who are not. We require no three-branched magnet or other appliance of charlatanism to accomplish these things; aural promptings, or indeed almost any of the other forms of suggestion, are sufficient. The inference to be drawn is, I think, quite plain, and I shall, therefore, drop this phase of the discussion.

Possible Dangers of Hypnotism.—As long ago as 1784, some of the dangers of hypnotism were pointed out by De Puységur, a pupil of Mesmer. The danger to which he referred more particularly was the criminal use which an unprincipled person might make of the ascendancy gained over the subject. These warnings, frequently repeated of late, are not without reason, as the annals of crimes committed during the last sixty years abundantly prove. Rape, kidnapping, and murder are some of the crimes charged to the account of the nefarious hypnotizer.

But these are not the only sources of danger; for experience has abundantly shown that the subject himself may be prompted to commit theft and other species of crime after emerging from the hypnotic condition. This fact, which has already been mentioned, has become the subject of special judicial enactment in several countries.

Finally, the repeated hypnotization of the subject is liable to be followed by more or less dangerous consequences to himself. Inordinate emotionality, impairment of volition, and a tendency to become spontaneously hypnotized, or at least excessively drowsy, are some of the more obvious features of this post-hypnotic condition. I have at the present time under my care a gentleman who exhibits this neurosis—for neurosis it certainly is—in a striking manner. He is a man of rare gifts, he has maintained and still enjoys a high position in the community; and yet his mental decrepitude is so obvious that it is matter of astonishment to me that he has been able to disguise its source so long. Currently he is regarded as a sufferer from mental overwork, and I must confess that I should have had great difficulty in arriving at the true nature of his difficulties, had he not confessed that he had been hypnotized scores of times, and that his present infirmity had come on as the direct result of these abuses—for abuses they certainly were.

Such a person as this is, of course, exposed to manifold dangers, for he had become so susceptible that, not only is it possible for anyone to hypnotize him, but he is able without further assistance to induce in himself the sleep-like state.

Here, then, are the more manifest dangers of hypnotism.

Concerning Possible Therapeutic Uses of Hypnotism.—I am not very sanguine as to the future of hypnotism as a curative agent in nervous or other diseases. According to my own researches—and those researches date back eight years or more—the method is vastly more limited than one would imagine from the exaggerated claims which have been of late advanced in its behalf by over-zealous medical men. Let me mention a few of those limitations. In the first place, only a certain (unknown) percentage of persons are amenable to the hypnotic influences, or, to express it more exactly, only a limited number of persons are hypnotizable with the present means at our command. Secondly, the effects obtainable are evanescent; for, unless we hypnotize the patient so often as to incur the risk of doing him an injury, we cannot hope to perpetuate the suggestions sufficiently to do any good.

From these considerations it follows that the permanent effects which one may hope to produce upon the material economy through this class of psychical forces must be insignificant. Functions may, it is true, be exalted or depressed for the time being, but qualitative changes in the structures themselves are impossible. The internal capsule, the thalamus, the motor convolutions, the sensory tracts in the cord once destroyed, are not to be restored by any form of interference. Moreover, a physiological substitution (in Bernheim's sense) for these and analogous structures, seems well beyond the farthest bounds of physiological probability. Hence, as I have previously mentioned, all attempts to apply hypnotism to the treatment of organic disease are opposed to sound thinking. Indeed, I regard such proposals as hurtful to science, and particularly medical science, inasmuch as the reputation of the profession for sound judgment is thereby greatly jeopardized. The facts which the advocates of such questionable methods have to present are still too few in number, and too meagrely substantiated, to form the basis of affirmative argument. What then is the position which hypnotism may be expected to assume in the neuro-therapy of the future? In my opinion the rôle which it is destined to play is a subordinate one. In the light of its present and past history, I do not see how it can be otherwise. As an adjunct in the management of minor degrees of hypochondria, morbid apprehension, depression, and hysteria, it may sometimes be invoked, but then only as a collateral expedient, and largely with a view to rendering the patient more tractable and amenable to other elements in the plan of treatment. The aid afforded by an appeal to the expectancy of the sick is familiar to every physician; by invoking the aid of the hypnotic state such an appeal may be made with an energy which is not attainable while the patient remains in the ordinary mental condition. But, while the miracles recorded by enthusiastic writers make, like Munchausen's tales, entertaining reading, they are not likely to enter into the sober realities of the consulting-room.

In view of what we now know of it, hypnotism is to

[1] Luys: Op. cit., p. 180.

be dealt with by the physician; for it is evident that a competent medical man is alone in a position to judge of its real or imaginary advantages. Certainly, only such a man should be allowed by our statutes to invoke its assistance in the treatment of diseases, however insignificant.

53 WEST THIRTY-EIGHTH STREET.

FOREIGN BODIES IN THE EYE.[1]

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IT is by no means an uncommon thing for us to be consulted by patients with foreign bodies lodged in the cornea or under the upper eyelid. In order to ascertain the comparative frequency with which this occurs I looked up the records of the Manhattan Eye and Ear Hospital for a number of years and embracing fifty-four thousand nine hundred and twelve patients with diseases of the eye. Of these no less than twenty-nine hundred had foreign bodies in their cornea, while three hundred and fifty had foreign bodies lodged beneath the upper eyelid. I presume the proportion is much smaller in country districts and in cities where there are no elevated railroads, but every practitioner is liable to meet with these cases, and should know how to handle them.

In the great majority of cases no especial difficulty is encountered. The patient comes to the doctor, tells him he has a speck of dirt or a cinder in his eye, and often locates it for him. The doctor turns over the upper eyelid, sees the foreign particle, and removes it with a little absorbent cotton twisted about the end of a match or tooth-pick, or, if neither be at hand, he brushes it out with the corner of a clean pocket-handkerchief. Or if the speck is not to be seen on the inside of the upper eyelid the doctor turns it back into its natural position and proceeds to inspect the cornea. If the particle is black and large enough to be easily seen, the doctor discovers it at once, puts in a drop or two of a solution of cocaine, no matter of what strength, and after a few minutes proceeds to pick out the offending particle. When very superficial he often succeeds in wiping it off with the absorbent cotton twisted about the end of a slender bit of wood. When a little deeper, he gets it out with an instrument known as a spud. When deeper still, he generally has to resort to the broad cataract-needle, or, better still, a cystotome. But the foreign body may have penetrated so deeply that it is lodged on the membrane of Descemet, or it may have passed through all the coats of the cornea and remain sticking in its posterior surface with a portion of it projecting into the anterior chamber. In such a case none but a skilled hand should attempt its removal. If it escapes and falls into the anterior chamber it will very probably occasion the loss of the eye, and possibly cause the loss of the fellow-eye also, by sympathetic inflammation. It is useless to attempt to extract it with a magnet. It is grasped too firmly by the hard and unyielding tissues of the cornea. The best way is to transfix the cornea near the foreign body with a Beers cataract-knife and press the flat of the blade up against the foreign body, and then, while thus giving it support from behind, pry it out with a cystotome, or broad cataract-needle, as recommended by Dr. C. R. Agnew in the MEDICAL RECORD, vol. i., No. 2. Some recommend transfixing the cornea with a Graefe's cataract-knife, but its blade is too narrow. I tried it once and came very near losing the foreign body. On the other hand, I have used the Beers knife several times with ease and confidence. In a case operated on only a few weeks ago I did not find it necessary to make a counter-puncture. The linear wound made with the Beers knife in these cases heals without any scar visible to the unassisted eye, but there is usually a small, roundish opacity from the healing of the wound where the foreign body was lodged.

If the foreign body is lodged in the conjunctiva of the eyeball it is generally impossible to *pick* it out. The conjunctiva is so loosely attached that it moves with the foreign body before the point of the needle. In such cases I have generally had to resort to delicate forceps and scissors. The foreign body is seized with the forceps, raised up with the conjunctiva in which it is embedded, and snipped out with the scissors. The operator should be very careful to remove as small a portion of the conjunctiva as possible, because a considerable space of sclera is laid bare at the best.

But the patient who comes to us with a foreign body in his cornea very often does not know that it is there. He consults the doctor on account of symptoms of irritation or of inflammation of the eye. Unless the doctor is very careful he will be *misled* in these cases. It is of very little use to give a patient a camphor and borax wash for conjunctivitis while the foreign particle causing it remains in the cornea. I have had two cases under observation recently which impressed on me the importance of careful inspection of the cornea for foreign bodies. The first was a professor of surgery, and author of one of our best works on that subject. He came into my office one morning saying that his left eye was giving him a good deal of trouble; that for the last two or three days it had been subject to cramps and spasms; that sharp pains darted through it at times, and that it watered a good deal off and on. I said, "You have got something in it, haven't you?" He replied that he had no reason to suppose that he had. I looked long and carefully by daylight and by artificial light, and finally found what I sought—a small black speck near the centre of the cornea, so small that it could only be seen when the light was concentrated on it with a lens and when it was viewed at a certain angle. I dropped in some cocaine and removed it, and the doctor had no further trouble with the eye.

The other patient was a lady whose family physician, a man of excellent reputation, had been treating her for more than a week for an acute inflammation of one eye. The eye was red and painful. The cornea was hazy. There was a broad adhesion of the iris to the anterior capsule of the crystalline lens. Upon questioning her I could find no reason why she should have kerato-iritis. There was no syphilitic or rheumatic taint, and she was not aware that she had caught cold or received any injury to the eye. Upon looking at the eye I found a large black speck at the sclero-corneal margin. When I told her I had discovered a foreign body and described its location she declared it was simply a discoloration and had always been there. The doctor had accepted her statement that it was not a foreign body but part of the eye, and had proceeded to treat her for the inflammation. I easily demonstrated that it *was* a foreign body by removing it with the cystotome. I did not see the patient again, but presume that the cause being removed she recovered under the use of atropine and other treatment appropriate for kerato-iritis. It is doubtful, however, whether the synechia posterior will ever be broken up. Let us remember, then, that it is not at all uncommon to find a foreign body in the cornea causing an inflammation where it is not suspected by the patient. In short, where one eye is inflamed without adequate cause a foreign body should always be carefully looked for. I have several times found a loose eyelash projecting from one of the lachrymal puncta and thus keeping up a constant irritation. A single "wild hair" turned in and constantly tickling the eyeball will sometimes do the same thing. On the other hand, physicians are often consulted by patients who are firmly convinced of the presence of foreign bodies under their eyelids, where, on the most careful inspection, none can be found. The explanation that the feeling of irriation is caused by a roughness of the inside of the lid itself often proves unsatisfactory, and such patients sometimes "go the rounds"

[1] Read before the White River Medical Society, July 31, 1890.

of the different eye-doctors, or eye-clinics, to get the imaginary foreign particle removed. The lesson is: Do not depend upon the sensations or the statements of the patient where foreign bodies in the eye are concerned. They are often there when not felt; they are often felt when not there.

If the foreign body has passed through the wall of the eye and lodged anywhere in its interior we have a more serious case to deal with. If it can be seen and extracted the sight may be wholly or partially preserved. If we fail to extract the foreign body the chances are that the eye will be lost, and in a certain proportion of cases the fellow-eye will also be lost, by sympathetic inflammation, leaving the patient totally blind. If the foreign body which has entered the eye is a large one, or if it has already destroyed the sight, the eyeball should be enucleated without delay. If it is very small and is lodged in the crystalline lens, or cannot be found with the ophthalmoscope or by means of oblique illumination, it is best to refrain from operative procedures, to keep the patient quiet, his eyes under atropine and bandaged, and await developments. If the foreign body is lodged in the lens, a cataract is usually developed, and when mature may be extracted with the foreign body in it, and a fair amount of vision restored. The constant changes in the shape of the lens in the act of accommodation may, after a time, force the foreign body out of its substance, and falling through the vitreous chamber to the bottom of the eye it comes in contact with the ciliary body, and sets up a cyclitis. When this occurs the eye should be enucleated. If enucleation is delayed the other eye is almost certain to be lost by sympathetic inflammation. When the location of the foreign body cannot be determined, and there remains a fair amount of useful sight, the patient should be warned that sympathetic inflammation is liable to occur, and that on the first setting in of sensitiveness to light, lachrymation, pain in the eyes, redness, or blurring of sight, he should hasten without delay to the doctor, and have the offending eye taken out if the doctor decides that he has threatened or commencing sympathetic inflammation. In these cases every day's delay increases the chances of blindness many-fold. It is hard to have an eye taken out that still has useful vision, but it is harder still to become blind in both eyes.

When the foreign body is lodged in the anterior chamber it may be removed through a broad incision at the corneal margin; if *steel*, by means of a magnet; if of any substance not susceptible to magnetism, by means of iris forceps, or a small cataract scoop. If the foreign body is lodged in the iris we generally have to remove a piece of the iris along with it. Unfortunately, the processes of sympathetic inflammation may be initiated before the foreign body is removed when lodged in this situation, and yet present no premonitory symptoms. I shall never forget a case of Dr. Agnew's, a child some six or seven years of age, who came to us with a piece of gun-cap plainly visible in the infero-temporal quadrant of iris, and which had been there only a few days. I administered ether and Dr. Agnew performed an iridectomy, removing the piece of gun-cap with the portion of iris in which it was embedded. The eye recovered rapidly, and apparently perfectly, from the injury and from the operation, and the child was taken to Lake George for the summer. In about two months he was brought back to us with irido-cyclitis in the injured eye and sympathetic ophthalmia in the other. In spite of all we could do the little fellow lost the sight of both eyes. The disease had come on insidiously in this case. There was no pain, redness, or photophobia; and the first intimation his parents had that there was anything wrong with his eyes was that they noticed him running against chairs and other objects without any apparent reason. At first they attributed it to carelessness, but on seeing these collisions frequently repeated they began to suspect that his sight was affected, and brought him to Dr. Agnew when too late. The pupils were already filled with lymph, there was total synechia posterior, and there was only perception of light. Further operative interference proved to be of no avail. The case taught me *not to be too sure* that the danger of sympathetic ophthalmia was over when the foreign body was removed.

If the foreign body can be seen suspended in the vitreous humor an attempt should be made to remove it, by the magnet if of steel, by Knapp's roughened foreign body-hook if of brass or of non-attractable substance. If the attempt fails, it is wise to enucleate on the spot.

If the foreign body can be seen lodged in the back wall of the eye, it may sometimes be removed with safety. Dr. George T. Stevens reported a case in which he discovered a piece of metal in that situation. He proceeded to locate it more exactly by puncturing the eye-wall from without with a delicate cataract-needle until he struck the foreign body with the needle. He then cut down upon it and removed it with forceps.

The foreign body sometimes enters the eye with such force that it passes completely through into the orbit.

Less than a month ago I had a case under my care that I strongly suspected to be of that kind. A gasfitter, who was doing repairs only a block away from my office, while cutting off a cast-iron tube, with chisel and hammer, had a piece of the metal fly up and enter his right eye. I saw him within half or three-quarters of an hour from the time of the accident. There was a linear wound of the cornea, not over two millimetres in length, a corresponding opening through the iris near the lower border of the pupil, and with the ophthalmoscope the track of the foreign body could be seen through the crystalline lens, which was already becoming opaque in that region, and at a corresponding point in the back wall of the eye, almost vertically below the optic disk, and one-fourth the distance between it and the ciliary region was a white spot surrounded by hemorrhage. It was impossible to determine whether the foreign body had passed through into the orbit, or had struck the back wall of the eye and rebounded and lodged in its lower periphery. I decided, after consultation with Dr. Noyes, to give the patient the benefit of the doubt and to follow the "expectant" plan of treatment. I kept the patient under observation for ten days or two weeks, kept the eye under atropine and bandaged, and there was very little inflammatory reaction, but a steady increase in the opacity of the lens. His sight in the injured eye, which was $\frac{20}{200}$ when I first saw him, was reduced to $\frac{2}{200}$ before I left the city. When his lens becomes wholly opaque I propose to extract it, provided no sympathetic symptoms occur previously to that necessitating enucleation.

I have more than once seen an eye enucleated for supposed foreign body and none was found either in the eye or in the orbit; although the course of the foreign body could be easily traced through the eye-walls into the orbit, yet it had so lost itself in the loose tissues there that it could not be felt with probe or finger. I remember one case, under the care of Dr. Pardee, then one of the surgeons to the Manhattan Eye and Ear Hospital, in which the foreign body—a piece of steel some quarter of an inch in length and irregularly shaped—made its way to the surface, and was removed some three or four months after the eye was enucleated. If the foreign body is in the orbit it need not be sought after very much, as it is not likely to do any harm there.

In conclusion, I beg leave to sum up as follows:

1. Always search carefully for foreign bodies on the cornea and on the conjunctiva in cases of inflammation of one eye coming on suddenly and without other apparent cause.

2. Remove them, when found, with as little injury to the surrounding parts as possible.

3. When a foreign body is lodged within the eyeball, especially in the ciliary region, the patient is in danger of losing the fellow-eye by sympathetic inflammation, whether the foreign body is removed or not. The removal of the foreign body greatly lessens such danger.

4. If the foreign body has already destroyed the sight the eye should be enucleated without delay.

5. If sympathetic inflammation sets in, the sooner the eyeball containing the foreign body is enucleated the better will be the patient's chances of retaining useful sight.

6. If the fellow-eye is attacked with symptoms of severe *sympathetic irritation*, the eye containing the foreign body should be enucleated without waiting for actual sympathetic inflammation.

7. The magnet is serviceable in cases where the foreign body is of attractable material and *can be seen*, and is not firmly embedded in the eye-wall, nor encapsuled with organized lymph.

8. Where the foreign body is small and its lodging-place uncertain the introduction of a magnet into the eyeball is generally to be deprecated.

9. After the foreign body has been *extracted* from the interior of the eye the patient should be warned that sympathetic inflammation may occur, and, in such a case, should not be neglected.

LAPAROTOMY FOR GUNSHOT WOUND OF INTESTINE.

Four Perforations by Large Bullet; Various Complications; Complete Recovery.[1]

By M. T. SCOTT, A.M., M.D.,

Lexington, Ky.

Appreciating the value of clinical records, it has occurred to me that the report of an unusual surgical case might not prove uninteresting. Our most useful information comes from the bedside and operating or post mortem tables rather than from essays on medicine or surgery, valuable though these certainly are. But, lest I trespass too far on your time I will proceed at once to the matter in hand.

On August 6, 1890, I was asked by Dr. W. A. Brock, of Lexington, Ky., to see W. M——, colored, aged twenty-seven. History was as follows: About 7 P.M., on date mentioned, the patient was standing on a street corner diagonally opposite some men who were shooting at each other. A stray bullet struck patient an inch and three-quarters above and to the right of the left anterior-superior spinous process of ilium. The attending physician at once recognized the gravity of the wound, and administering half a grain of morphine by mouth ordered the patient's immediate removal to St. Joseph's Hospital, a mile and a quarter distant.

I first saw the patient, in a dimly lighted small room, about 10.40 P.M. He was a man over six feet high, extremely thin; was lying on his back with legs drawn up, expression anxious, features pinched, extremities cool, this last condition due possibly in some measure to insufficient clothing while in wagon. His pulse was 120, small, and wiry; temperature, 102° F. He complained greatly of radiating pains in abdomen, which was retracted and very hard. Though not probed, the direction of the ball seemed directly backward. An extensive adenitis was found in each groin, each bubo being as large as half a banana, and desquamating in large flakes from previous applications of tincture of iodine. Patient also suffered from gonorrhœal urethritis and cystitis, together with a troublesome bronchitis.

Notwithstanding these very unpromising complications, our cramped quarters, and poor light, I decided to do an immediate laparotomy. This was fully concurred in by Drs. W. A. Brock, E. A. Anderson, and P. H. Molloy, who rendered most valuable assistance. At 11 P.M., four hours after receipt of injury, the inhalation of chloroform was commenced. This anæsthetic was used on account of the necessary proximity of two coal-oil lamps.

The abdomen was scrubbed with bichloride solution, 1 to 2,000. The infected genitals and groins were enveloped in towels wrung out of a solution of twice the above strength. A median incision, four inches long, was made, extending from two inches above to two inches below the navel. As soon as the peritoneum was opened several loops of intestine protruded. These were immediately enveloped in hot, wet towels. In one of these sections of ileum we found four perforations within a distance of four inches. Two of these perforations were within a quarter of an inch of each other, with their long diameters at right angles to long axis of gut. All the perforations were elliptic. The openings were promptly closed by the Czerny-Lembert suture with fine silk. No other visceral or intestinal wounds were found. The intestines were comparatively empty, and but little of their contents had escaped into the cavity. Hemorrhage had been slight. The bullet was not located. The peritoneum was repeatedly washed until the water came away clear. A large glass drainage-tube was used. The abdominal wound was closed by interrupted silk sutures. This step in the operation was very much impeded by the intense rigidity of the abdominal muscles, which did not for a moment yield during the entire operation. This condition baffled our endeavors to secure perfect coaptation of the cut surfaces. A dressing of iodoform, bichloride gauze, and bichloride cotton was held in place by a many-tailed bandage. A similar dressing was used on the wound of entrance. The operation lasted one hour and ten minutes, at the expiration of which time the patient was put in a warm bed, wrapped in blankets, and surrounded by hot bottles. Pulse, 130; temperature, 101° F.

He awakened promptly after the operation, and expressed himself as feeling comfortable. The remainder of the night was passed quietly; no vomiting, no drainage. Nothing was allowed by mouth, but frequent hypodermic injections of whiskey were used. Seven hours after completion of operation, or at 8.30 A.M., August 7th, his pulse was 112, and temperature 100⅘° F.; tube was discharging a sero-sanious fluid without odor. One-quarter of a grain of morphine was used to allay restlessness. Frequent observations of pulse and temperature during the day revealed nothing of interest until 6 P.M. At this time pulse was 116; temperature, 101° F.; the discharge from tube was abundant, brown, and had a distinct feculent odor. Slight delirium was also noted. A hypodermic of one-fourth grain of morphine was given. At 10.30 P.M. pulse was 126; temperature, 101⅘° F.; discharge abundant, and same in character as last noted, though the feculent smell was less marked. August 8th, at 1 A.M., pulse was 132; temperature, 101½° F. Vomited a dark fluid, about two ounces. Discharge from tube more serous.

Lest this report grow too lengthy, we will omit further details of pulse, temperature, etc. The temperature never rose above 101½° F. after the operation, though the pulse reached 132°. Only three-fourths of a grain of morphine was administered after surgical interference, and one-half of a grain before it. Nothing was given by the mouth for forty-eight hours, and then ten grains of magnesium sulphate in two drachms of water every hour. At the close of the third day flatus escaped freely; at the same time the tube was withdrawn, as drainage had ceased. Half an ounce of tea was now allowed. Commencing at the ninety-fifth hour purgative doses of Rochelle salts were ordered every two hours. These produced copious movements in eleven hours.

On the sixth day the bullet was located, almost subcutaneous, three inches to the left of spine and one inch below the iliac crest. It was extracted under cocaine anæsthesia. Its removal was accompanied by the discharge of about one drachm of thin, ill-conditioned pus. The bullet was a thirty-eight calibre, conoidal ball, weighing one hundred and forty-three grains, slightly roughened by impingement on ilium, around which it was deflected

At no time was a catheter used, the cystitis occasion-

[1] Read before the Mississippi Valley Medical Association, at Louisville, Ky., October 9, 1890.

ing frequent and uncontrollable urination, accompanied by considerable vesical tenesmus. Milk was not allowed in any form until the ninth day, and then only as milk-punch after purgation. The patient's cough was throughout a troublesome complication.

Intermediate stitches were removed on seventh day, and the remainder on the day following. One small stitch abscess formed, which occasioned no trouble. No gaping or hernia resulted. The patient is at this date, September 8th, walking around the ward. He is much fleshier than before the operation. Cicatrization is complete and firm. His bronchitis, buboes, cystitis, and gonorrhœa have all disappeared.

Remarks.—While it may seem presumptuous to draw conclusions and advocate theories on the experience gleaned from one successful operation, still it seems to me that certain facts are so clearly shown in this case that I may be pardoned for urging certain measures on rather scant clinical experience.

In all cases where there is reasonable ground to think, either from shock, radiating pains, gentle and aseptic probing, or other bedside researches that the peritoneal sac has been invaded, it seems to me that it is our duty to make an exploratory laparotomy and see what damage has been done to the viscera therein contained. While I would not sanction the reckless use of the knife, still the percentage of recoveries from prompt operations, done by competent men, is so immeasurably better than the data furnished by the old, conservative plan, that we cannot longer remain in doubt. As declared by McGuire: "If it is urged that the means suggested are desperate, it can be said in reply that the peril is so extreme that, as now treated, nearly all die; and, I believe, by the means I have pointed out, in gunshot wounds of the peritoneum the patient will exchange an almost certain prospect of death for at least a good chance of recovery."

Ovariotomists have taught us that the peritoneum is not the exquisitely sensitive tissue that we were formerly taught to consider it. On the other hand, it will bear much manipulation if we only clean it, and in certain cases drain it. It has been my lot to see several patients suffering from gunshot wounds of the abdomen. Some have died, all, in fact, except the one now under consideration, and a case operated on by my friend Dr. David Barrow. One patient operated on twenty-four hours after injury died twenty-four hours later. I am satisfied that his last hours were ones of far less suffering than they would have been had he been left without an effort to save his life. On the contrary, I was called, two or three years since, to see a stout, athletic young man who had accidentally shot himself in the abdomen. He declined an operation, and died a death of agony at the end of twenty-four hours, gas and fecal matter escaping from the wound.

In the case under consideration we carried out antiseptic and aseptic methods as well as the circumstances would admit. The large desquamating buboes, so near the field of operation, were a constantly threatening source of infection. The peritoneum and its contents were not allowed that rest and quiet I would so gladly have accorded them. At no time was a catheter used. Shortly after coming from under the chloroform he urinated freely, the act being accompanied by much pain. The vesical tenesmus was distressing during the first week. No trouble resulted about the drainage-tube. Throughout the entire progress of the case his constant cough and uncontrollable attempts to expectorate gave his abdominal organs no peace. Even this did not seem to excite a suspicion of peritonitis.

A large glass drainage-tube was used. Every effort was made to cleanse every nook and corner of the sac, and yet for over four hours at the close of the first day there was a free discharge of chocolate-colored fluid, with a faint feculent odor. Had the peritoneum been closed, and had not the tube proved such an admirable sewer, I am sure that a fatal termination would have rapidly ensued. Where this fluid came from I do not know, probably some fecal extravasation escaped detection. This circumstance, it seems to me, is a strong argument in favor of drainage in these cases. Illustrious operators have left sponges and instruments in the sac. How much easier to overlook a small amount of feculent matter. I care not how painstaking we may be, we cannot see behind all the folds and reduplications of this membrane. It would therefore seem the part of wisdom and caution to use drainage in all peritoneal wounds complicated by visceral, mesenteric, or intestinal injuries.

Operations to be successful must be promptly done. Neither obstacles nor pre-existing diseases need necessarily lead us to decline to operate. This patient recovered in spite of extreme emaciation and other maladies. He was transported over a mile in a wagon over rough roads and was then operated on in a small room with a very poor light.

A CASE OF ACUTE RETRO-BULBAR NEURITIS.[1]

By C. M. HANSEN, A.M., M.D.,

CHICAGO, ILL.

I TAKE the liberty to report from my practice a case of that obscure disease which, from the time of Graefe, has been called acute retro-bulbar neuritis. I do not intend to touch at old theories nor to advance new ones. I simply relate the history of my patient, in the hope that every clinical observation can be of value to the future scientist, who may throw light on the real pathology of this disease.

The patient, Mrs. H——, resident of Pullman, Ill., aged fifty-five, has always been in good health and shows no sign of any chronic disease. She has healthy, grown-up children. On March 20, 1890, she took sick, with a moderate attack of influenza, that was treated with small doses of quinine and antipyrine. Some days later she got a severe headache over the frontal region, that increased in violence during the first week of April, so that she was obliged to stay in bed and use morphine to get sleep. The headache was accompanied by slight fever, but not by delirium nor loss of consciousness. From April 8th her vision became clouded, and thereafter failed rapidly in both eyes, without any subjective light or color symptoms, till she became completely blind on April 11th. The violent headache continued for about one week. After the complete blindness set in, its seat was confined to the frontal region, and its severity necessitated continued use of morphine, then from the middle of April it disappeared gradually. She was now entirely blind, and could not tell light from darkness during four weeks, till May 8th, when she at once began to perceive light. Since that time some vision has slowly returned. She has been fully conscious during the course of the disease. She has had no return of the headache, and all functions are in the best order. I saw her for the first time May 22d. My notes about her case are as follows:

May 22d.—No inflammatory symptoms of the eyes. Condition of both eyes identical. The media are transparent, refraction normal. The pupils dilated *ad maximum*, not reacting to light nor on movements of convergence. Fair perceptibility for light, but poor projection; she is only able to discern light from darkness. Examination of visual field impossible. Pronounced excentric fixation. No nystagmus. The functions of all external muscles of the eyes normal. The sense of smell, taste, and hearing not impaired.

Ophthalmoscopic view of both eyes: Very like an embolism of the central artery in a state of recovery. The margin of the optic disc is clearly defined, of suspiciously white color, the veins abnormally filled, not tortuous, the arteries abnormally small. Retina of pale color, without any evidence of inflammation or bleedings.

[1] Read before the Chicago Medical Society, September 15, 1890.

The patient looks well. No heart disease. The urine normal.

Treatment.—Potassium iodide and strychnine.

June 12th.—Appearance of the eye as last time. Excentric fixation. The visual field of minimal extent, vision improved; she can outline larger objects and discerns bright from darker colors. She moves around in her room without assistance.

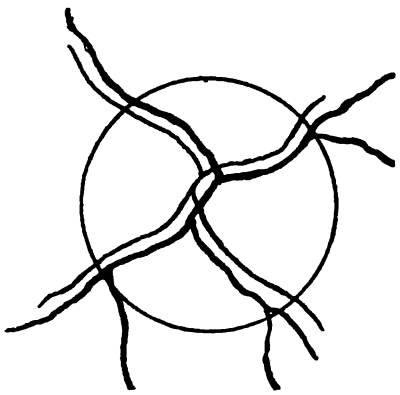


FIG. 1.

Ophthalmoscopic view: The arteries are about normally filled, and are seen with double contours. The disc has a decided atrophied appearance, with exception of the most temporal part.

July 15th.—Appearance as before. Same excentric fixation. She can now see men and horses in the street from her window. She reads with difficulty the large E at five feet distance (V. = $\frac{5}{200}$).

Ophthalmoscopic view: The vessels are normal, the optic disc is atrophied, with exception of a half-moon-shaped section of the temporal part, symmetrical in both eyes. No atrophic spots in the retina.

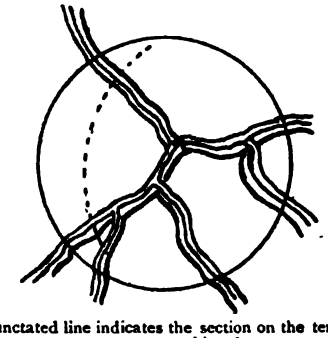


FIG. 2.—The punctated line indicates the section on the temporal border that is not atrophiated.

August 15th.—Unchanged. The vision has not improved during the last six weeks.

Ophthalmoscopic view unchanged. Stationary partial atrophy of the optic nerve.

Otherwise she is in perfect health. Reiterated examinations of her urine have never shown the presence of albumin or casts.

The treatment of the disease has been chiefly hygienic, the potassium iodide as well as the strychnine being apparently of no effect.

Now, in discussing the diagnosis of this case, I may safely exclude the possibility of an hysterical amblyopia as well as of a primary embolism of the central artery. As to an uræmic origin I must repeat that I found no symptoms of Bright's disease in my patient. Furthermore, a uræmic amaurosis would not go so far as atrophy of the optic nerve, unless considerable albuminuric changes had taken place in the retina. As to a toxic amaurosis, there seems here to be no foundation. She did not get quinine nor antipyrine enough even to produce tinnitus aurium of any degree, neither did she present any other sign of idiosyncrasy in regard to these drugs. There is no reason to suppose that syphilis or alcoholism existed.

With exclusion of these causes it will be seen that my case corresponds exactly with the cases described by Graefe as acute retro-bulbar neuritis.

The very rapid and complete loss of vision, simultaneously in both eyes; the later occurring compression of the central vessels of the optic nerve without any inflammatory changes in the bottom of the eye; the more or less complete restoration within a limited time, point to the existence of an infiltration of the optic nerve extending downward from the chiasma. Graefe's cases, as well as those later reported, occurred during or after an attack of acute fever, such as angina, typhoid fever, and especially cerebro-spinal meningitis. I have not been able to find any account of a post-mortem examination, but the theory of a neuritis seems to be strengthened by the similarity of the clinical features to those of an inflammatory optic neuritis in consequence of caries in the bony wall of the foramen opticum.

If I am correct in eliminating in this case all other factors, I believe that the patient had a descendent exudative neuritis, possibly in consequence of a localized plastic meningitis. I believe that the disease was the result of an attack of influenza, the more so as there have been reported several diseases of the nervous system, especially neuritis of the peripheral nerves, directly traceable to the epidemic of influenza of last winter.

Before concluding I would call attention to my patient's excentric fixation. When fixating an object she turns her eye so as to perceive with some point of the retina between the yellow spot and the blind spot. Now, the optic disc of her eye is atrophied, with the exception of a small part on the temporal border, and this is just the part of the optic nerve that furnishes branches for the retina between the optic disc and the yellow spot. This part of the retina is naturally not very perceptible, but it seems that she has been able to educate it from the mere perception of light to a tolerably good perception of the outlines of medium-sized objects.

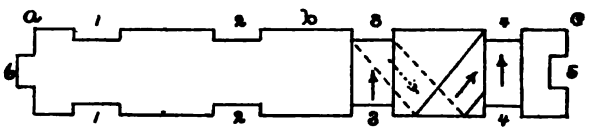
125 STATE STREET.

A SECTIONAL SPLINT

BY F. BIERHOFF, M.D.,

NEW YORK.

SOMETIME ago, during a discussion on the ambulance corps in the National Guard, my friend Major Bruce, Surgeon to the Eighth Regiment, N. G. S. N. Y., suggested to me that I devise a sectional splint that should be strong, firm, and compact, so as to admit of easy transportation and use on the field. He went further, and gave me such ideas as led to my making a splint which, I thought, would fulfil these requirements. On practical trial, however, I found it not sufficiently rigid and strong, and requiring so great a time to put together that I decided, if possible, to alter it so as to obviate these defects. Several successive designs were tried, but all found to be more or less defective, until finally I hit upon the present. This consists of five pieces of white-wood, or any other light, strong wood, each eighteen inches long, by three wide, by three-eighths inch thick. (See Figure.)



The depressed portions are one and one-half inch in length and three-sixteenths in depth, three inches apart, and one and one-half inch from either end, so that, with the sections in position, all are three inches apart. The tongue and groove are one inch wide by one-half inch deep. (The tongue adds one-half inch to the length of the splint.)

Five sections (or three with two link sections) make a long thigh splint reaching to the axilla. Three (or two

with one link section) form a short thigh splint for wounds about the knee. Two single sections make a splint for the arm, forearm, or leg. Two sections at right angles make an L splint for the elbow.

To bind the sections together I use a common muslin bandage one and one-half inch wide by six yards long. The manner of binding is as follows: The end (*a*) of the second section is brought opposite the middle (*b*) of the first. Then the grooves 1 and 2 of section second will correspond with 3 and 4 of the first. A noose is made at the end of the bandage, and this is tightened in groove 1–3, primarily binding sections first and second. Three tight turns of the flat bandage are made in this groove, without further knots. What would be the fourth turn is continued to a point midway between 3 and 4, the next upward turn coming in the groove 4. The three turns are repeated in this groove. Then the third section is laid on, its tongue (6) fitting into the groove (5) of section first. A single turn of the bandage is made over the junction of the sections, and the turns in the grooves repeated. When the sections are firmly bound, the end of the bandage is slipped in between the ends of the last two sections, where it is gripped firmly and will not slip. The splint may then be padded and covered as an ordinary splint. When bound as described above it forms a light, firm, smooth splint, quickly put together, and capable of sustaining as great, if not a greater strain than the ordinary splint.

It is designed especially for use as an aid in the treatment of fractures on the field, being compact, light, and capable of being carried by the ambulance corps; and for use in country practice, where a long splint, at best poorly adapted for transportation, is not always readily obtained.

276 West 127th Street.

A METHOD OF APPLYING PLASTER-JACKETS WITHOUT THE SAYRE SUSPENSION APPARATUS.

By W. E. FOREST, M.D.,

New York.

The plaster-jacket marked a distinct advance in the treatment of diseases of the spinal column. Its use has not been a temporary "fad," or fashion, like so many medical or surgical discoveries.

No improvement has been made on Dr. Sayre's admirable method of making or applying the jacket.

There has come a change in the idea as to the amount or degree of suspension necessary. I remember seeing Dr. Sayre, at the outset, have the subject raised entirely from the floor, suspended clear, in fact.

Later it was not, and is not now, deemed necessary to do more than take most of the weight from the spinal column; the subject's feet are now allowed to rest upon the floor during the application of the jacket.

The disadvantages of the Sayre suspension method are briefly these: 1, The expense of the apparatus; 2, the danger, more or less, in the use of suspension by unskilled hands; 3, the necessity for haste in the application of the plaster; 4, the necessity of taking the suspension apparatus off and moving the subject before the plaster has thoroughly set; 5, owing to the foregoing difficulties, a considerable amount of skill and experience is necessary to successfully apply a plaster-jacket after the Sayre method.

In the following will be found a substitute that will overcome the difficulties mentioned above, and bring the use of the plaster-jacket into the scope of thousands who have not the skill and experience needed to use the Sayre method.

It should be borne in mind that it is not claimed that this method offers many advantages over the Sayre method to those who have the suspension apparatus or the skill to apply it; it is intended for the general practitioner more especially.

My apparatus consists of an oblong wooden frame, two and one-half feet wide by six feet in length. This is fastened together at the corners by pins, so that it can be taken apart and put away. Along the outer edge of each long side is a groove, an inch deep, into which fits a wedge-strip that can be fastened with screws. On the

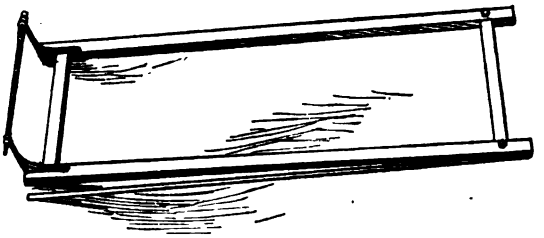


Fig. 1.

upper end of each long piece is screwed a common cast-iron bracket-holder, with a piece of broom handle carried across from the free end of one bracket to the other. The child grasps this cross-bar and holds itself in position. The frame being completed, a stout piece of unbleached muslin is stretched tightly over it and tacked along the outer sides of the frame below the grooves. Then the long strips are driven into the grooves and fastened. This stretches the muslin as smoothly and tightly as a drum-head, and absolutely prevents its slipping during the application of the jacket. This completes the apparatus.

In using it the end with the cross-bar on is placed on a high table or desk, and the foot upon a chair. The child is laid upon the frame, on its back, its hands carried above its head to grasp the cross-bar. An assistant may steady the grasp of the hands if necessary. The body is then straightened and stretched by gentle traction on the feet. Everything being in readiness to apply the plaster, the foot of the frame is lowered to the floor, so that the subject rests upon an inclined plane. This maintains and increases the stretching already given the child. Now, with a sharp knife make a cut in the cotton along each side of the child, close to its body, from the axilla to the middle of the hip, or as low as the plaster is to be applied. From the *middle* point of this cut make a cut in the cloth out to the frame. This at once gives a triangular opening on each side of the subject close up to the body. By making the opening triangular instead of square, the tension on the cloth supporting the head and hips is not relaxed. The child's head and shoulders rest on the

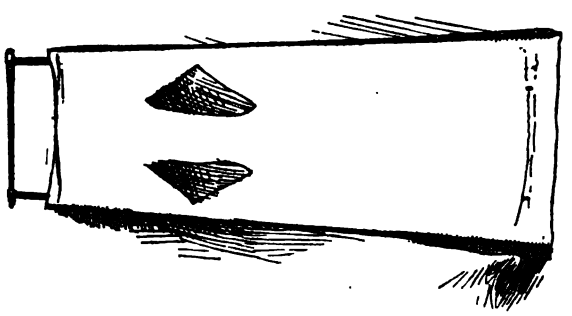


Fig. 2.

stretched cloth above, its hips and legs rest on that below, and along its back is still a strip of the cotton. There is not much tension on this strip now, as it has no side supports, and hence it moulds itself to the shape of the back.

The operator stands at the right side of the frame and commences applying the wet bandages. The openings on each side allow the plaster bandages to be carried around the body, outside the strip of cloth, along the child's back, with perfect ease, and placed exactly in position. The strip of cotton along the back is incorporated into the jacket between the shirt and the plaster. There need be no haste in applying the bandages, as the child can remain comfortably in this position for fifteen minutes. When the plaster has been properly put on and smoothed down, and has begun to harden, the foot of the frame is again

raised upon a chair or stool, and the jacket allowed to "set" thoroughly before moving the child. Then cut the ends of the longitudinal strip of cloth that forms part of the jacket and raise the child to its feet.

The advantages that may be claimed for this method of applying a plaster-jacket to children are: 1, It is absolutely safe in any hands; 2, it is agreeable to the patient and his friends and prevents fear and screaming in nervous children; 3, there is no disturbance of the jacket while it is "setting;" 4, any country practitioner can make and use this apparatus, and without other assistants than the child's parents can get as good results as an expert can with the Sayre suspension.

A quite extensive practical experience has proven that the above claims are well founded. The comfort to myself, the patient, and his friends, and the fact that the patient need not be disturbed during the "setting" of the jacket, would lead me to the use of this method for children in preference to any other.

If the diseased vertebræ are in the upper portion of the spinal column, so that extension by the head is indicated, this can be brought about by attaching the head support to the cross-bar at upper end of frame.

Permit me to say that Dr. Daniel Brown, of this city, first suggested to me the use of a frame with a sheet stretched across. The cross-bar for the child's hands, the use of the frame in a leaning position, so as to get good extension, and the practical application of it in spinal diseases should, so far as I know, be credited to myself.

39½ Washington Square.

PARALDEHYDE AS A HYPNOTIC.

By F. C. HOYT, M.D.,

THIRD ASSISTANT PHYSICIAN AND PATHOLOGIST TO STATE LUNATIC ASYLUM NO. 2, ST. JOSEPH, MO.

It is the misfortune of many new medicinal agents to be forced upon the profession accompanied by a mass of laudatory literature far out of proportion to the merits of the article. It is only after months, and often years, of practical use that the real value of a new drug is appreciated, and then only after experiences disagreeable and often disastrous. With the class of drugs known as hypnotics this is especially true, and, as in the case of paraldehyde, the subject of this article, a valuable preparation is often used rashly until some untoward result is observed, when it is dropped as unsatisfactory or dangerous. Paraldehyde, though not a new agent, yet is, outside of a limited circle, very little known or appreciated. It has for formula $C_6H_{12}O_3$, being of the aldehyde group, and having, in common with most members of that family, a strong, pungent odor, which, in this instance, much resembles ether. It is a colorless liquid, soluble only in an excess of cold water, and, as stated, has a pungent, disagreeable odor and taste, which constitute the chief objection to its use. These are in a great measure overcome, however, by exhibiting it in a menstruum which renders it both pleasant and unirritating. It is usually given in doses varying from thirty to one hundred and twenty minims, and is followed in from twenty to thirty minutes by quiet, refreshing sleep, unattended by any preceding excitement, and lasting from five to eight hours. Its taste and pungency are very effectually disguised by administering it in the form of an emulsion, made as follows:

Paraldehyde (*Merck's*)	fl.	ʒ j.
Pulv. acaciæ		ʒ ss.
Tr. quillayæ		ʒ ij.
Ol. cinnam.		♏ v.
Syrupi		ʒ j.
Aquæ	q. s. ad ft.	ʒ viij.

M. Ft. emulsio, one ounce equalling one drachm of the pure paraldehyde.

In general practice, where only one dose is to be given nightly, it will be found that a glass of cold milk will disguise one drachm of paraldehyde very effectually. It is seldom necessary to repeat the dose the same night, and, while there is no serious objection to doing so, yet its best effect is obtained by giving a full dose at first. During the last two years paraldehyde has been given nightly, at the asylum, and has largely supplanted chloral and other hypnotics. In that time there have been given over five thousand doses, varying from thirty minims to three drachms, and the observations and conclusions of so large experience justify me, I believe, in speaking with positiveness as to its merits. It has been given by myself and colleagues in all cases in which a hypnotic was indicated, and by so liberal and extensive trial we have been enabled to select with a degree of certainty those to which it is applicable, as well as those in which it is contraindicated. The average dose given has been one drachm, and it has, when sleep has been produced at all, acted promptly and efficiently. In marked contrast to the use of chloral and bromides when given daily for long periods, it causes no motor disturbances, has litttle effect on the spinal cord, exerts its action principally on the brain, and when the patient awakens, leaves him in a refreshed condition, free from nausea, giddiness, or headache. The only ill effect noticeable after a reasonable dose is a strong odor on the breath, which is not perceptible to the patient, and is disagreeable only to his companions. Only after large doses, and then in exceptional cases, is nausea produced, and this is of short duration. A certain degree of tolerance is established, making a small and gradual increase in the dose necessary. The secretions are not affected by it, and instead of causing dryness of the mouth and constipation of the bowels, its effect is the reverse, it having a tendency to produce peristaltic action, which renders it mildly laxative. For this reason it is contraindicated in cases of dysentery typhoid fever, and other diseases in which gastro-intestinal irritation is a feature. In very large doses it does not affect the heart and pulse other than to slightly decrease both the rapidity and volume of the pulse. Its effect is more noticeable on the respiration, slowing and rendering it very shallow, and, after very large doses, irregular. If a lethal dose were administered, I think it probable that death would result from its action on the medulla oblongata.

It acts nicely and is, I believe, the safest of all hypnotics for aged persons and for those who suffer from organic heart troubles. I have given it night after night to persons who had heart lesions, such as dilatation, hypertrophy, valvular disease, and atheromatous arteries, without an untoward symptom. As it is largely excreted by the kidneys, being recognized in the urine after its administration, it might be contraindicated in diseases of the urinary organs. Its great value to the asylum physician is its prompt and prolonged effect, its freedom from depressing action, and especially from any tendency to impair nutrition in any way. Its mildly stimulating property renders it extremely useful in the wakefulness and mental anguish of melancholiacs, and it has been, I believe, no small factor in hastening recovery in many of these cases. It is powerless to relieve pain, having little or no effect on the cord, but expending its energy on the cortical brain, hence being an ideal hypnotic. To the general practitioner I believe it will prove of great value in all cases of uncomplicated insomnia, such as mental worry from trouble, prolonged fatigue, hysteria, etc.

It is a valuable agent in the sleeplessness following a debauch, and here again its stimulating properties are beneficial. In the insomnia of phthisis, heart disease, myalgic pains of a slight character, and, in fact, in all cases of insomnia not attended by great pain or excitement it is applicable.

It has been found inefficient in the excitement of acute mania and the periodical attacks of furor in chronic mania. In such cases we were compelled to use a more powerful agent, such as hyoscine. In the nocturnal talkativeness of general paretics it usually is efficient, al-

though occasionally it will fail. It also is hardly equal to the task of quieting epileptics in the furious excitement to which they are subject.

Its continuous administration has no tendency to produce a habit, a danger which lurks in every dose of morphia, chloral, and such drugs.

As a condensed statement of the indications and contra-indications for the use of paraldehyde, I have arranged the following synopsis of my experience with the drug:

Paraldehyde may be given in doses varying from thirty minims to three drachms, bearing in mind that continued use establishes a tolerance, which must be met by a gradual increase in dose.

It is in reasonable doses the safest of all hypnotics, and is especially so in old and feeble persons with heart lesions.

It is not constipating, but laxative, and has no tendency to impair appetite or nutrition.

It can be given in nearly all cases of insomnia, and will fail only in a small percentage of cases. It does not relieve pain, nor will it produce sleep in cases of great excitement, such as occur in mania.

It stimulates rather than depresses, and a low state of vitality is no contra-indication to its use.

It is contra-indicated in cases of gastric or intestinal disorders, and probably in diseases of the kidney.

Progress of Medical Science.

Successful Removal of a Hydatid Cyst Pressing on the Motor Region.—Dr. Graham and Mr. Clubbe report an interesting case of severe brain lesion successfully treated by operation. The case was that of a youth, aged sixteen years, whose previous history showed no serious illness. At ten years of age, however, he was unconscious for two days, apparently from cerebral laceration after a fall. At the beginning of the present year his memory gradually failed, and in addition to suffering from giddiness and sickness, he gradually became blind in the left eye. Weakness in both legs next appeared, and right brachioplegia. On admission to the Prince Alfred Hospital, under Dr. Graham, both disks showed post-neuritic atrophy. He was treated with large doses of bromide and iodide of potash, and improved very much in motor power. However, he had a fit, after which the right hemiplegia was much worse, and stupor began. Exposure of the arm area in the left hemisphere by trephining was then performed by Mr. Clubbe, and a hydatid cyst removed, having been found to be simply pressing on the "motor" area. The wound was closed and healed by the first intention. There was some subsequent oozing of cerebro-spinal fluid, owing, perhaps, to the employment of a drainage-tube, but the patient made an excellent recovery, and has now regained the lost power. Unfortunately, the operation was performed too late to prevent atrophy, and so the patient, it is to be feared, is permanently blind. In every respect, however, the case is a most valuable contribution to the literature both of cerebral surgery and of hydatid disease.—*Australasian Medical Gazette.*

Tubercular Peritonitis, Infection of an Ovarian Cyst.—Dr. Sanger recently described, before the Obstetrical Society of Leipzig, a case to be noted alike by surgeons who perform abdominal section, and by all who are interested in the pathology of tubercle. A woman, aged sixty-seven, was subject to an ovarian cyst, which had repeatedly been tapped. Dr. Sanger operated, and removed a multilocular glandular cyst, weighing sixteen pounds. The contents were colloid. There were universal adhesions readily broken down without much hemorrhage. Then the operator found that tubercular peritonitis existed, proceeding from the Fallopian tube, which was removed with the cyst. The affected tube was as thick as a man's finger; its cavity contained cheesy matter; its serous coat was covered with miliary deposit. The wall of the cyst was beset with yellow patches, which on microscopic examination, proved to be true tubercular deposit. The uterine discharge, muco-purulent and full of cheesy flakes, indicated tubercular disease of the uterus, but no tubercle bacilli were detected. The patient recovered, it is reported, without any rise of temperature. This fact, in connection with the great age of the patient and the tubercular disease, is certainly remarkable. The tapping had no doubt caused the tubercular infection of the cyst wall.—*British Medical Journal.*

The Bacillus of Purulent Urine.—Some experiments have been made in the laboratory of Professor Strauss, in Paris, by Dr. Krogius, on the puriform urine of ten patients suffering from chronic stricture, with catarrh of the bladder and pyelo-nephritis. In one of these cases a bacillus was found of rather polymorphous appearance, resembling a small mobile pencil with rounded ends. The bacillus was from 1.8 μ to 3.6 μ in length, with a breadth equal to one-third of its length. When cultivated the length became considerable, but it developed no spores. It was easily dyed by aniline, but with equal facility decolorized by Gram's method, and it liquefied gelatine. At a high temperature it developed most peculiar colonies. They were distinguished by a strong characteristic odor resembling that of purulent urine. The development of ammonia was very marked. The bacillus very quickly decomposes urea into carbonate of ammonia and water. When newly cultivated and injected in doses of half a cubic centimetre into the subcutaneous connective tissue, veins, or peritoneum of rabbits, it often caused death in two hours, and never took more than two days to act fatally. Older bacilli are still more poisonous. The puncture shows first œdema and redness, and then the epidermis becomes gangrenous, with an ammoniacal odor. The animals themselves are, in a few hours after the injection, in a state of high fever, prostrated, and suffering from profuse diarrhœa, and ultimately coma comes on, during which they sometimes die in convulsions. The bacillus is called by the author "liquefaciens septicus."—*The Lancet.*

Reunion of Cut-off Tongue.—Dr. N. C. Davis, of Good Thunder, Minn., in September, 1884, was summoned to see a boy seven years of age who had been kicked by a horse on the right cheek, breaking off the first bicuspid tooth. The tongue was cut entirely off at the junction of the tip with the base, or the posterior portion of the frænum linguæ, with the exception of a few fibres of the tongue and mucous membrane on the right side. When Dr. Davis arrived, the end of the tongue was protruding from the mouth. The hemorrhage was controlled by a dilute solution of persulphate of iron. Dr. Davis drew the base of the tongue forward with a tenaculum. Then the apex was brought into apposition with the base, and secured by five silk ligatures above on the dorsum, and seven below. The boy stood the operation well, and the hemorrhage was trivial. The balance of the treatment consisted in syringing out the mouth twice daily with a solution of boracic acid and putting patient upon a liquid diet. The tongue healed nicely, with the exception of a small portion on the left side, which sloughed out and left a small notch, which was nearly replaced by granulation. The doctor discharged the patient in about three weeks, with the tongue full length and articulation good.—*Northwestern Medical Journal.*

The Treatment of Acute Diseases.—According to Dr. N. S. Davis, if we would reach the highest degree of success in the treatment of acute general diseases, we must keep distinctly in mind the following propositions: 1. We

must as early as practicable separate the patient from the further action of both the specific and predisposing causes of his disease, by surrounding him with pure air and as perfect sanitary conditions as possible; and as the living animal system uniformly tends to either destroy or eliminate the specific morbific causes by its own metabolic changes, we should carefully avoid the use of such remedies as either directly or indirectly retard or prevent such normal metabolic processes, even for the repression of one or more prominent symptoms. On the contrary, we must use such general alterative and antiseptic remedies as are known to sustain and correct such processes, and thereby aid in hastening the destruction or elimination of the disturbing *materies morbi*, whether they consist of living germs, chemical ptomaines or leucomaines, or only excretory matters abnormally retained in the system. 2. As the pyrexia or high temperature results mostly from interference with the processes of heat-dissipation, especially in the ordinary continued fevers, we must further aid in restoring these processes by gently promoting natural elimination and the direct abstraction of heat by sponge-baths, and in excessive cases by wrapping in the cold wet sheet, all of which exert a restorative influence on the vaso-motor, cardiac, and respiratory nerve-centres; while, with equal care, we avoid administering such doses of internal antipyretics and alcoholics as diminish heat-production by retarding both blood and tissue metabolism, and equally depress nerve sensibility and force. 3. Again, as every specific cause capable of producing the complex assemblage of morbid phenomena that constitute a general fever, has displayed a tendency to induce special local morbid conditions in some one or more of the important tissues or organs during the progress of the general disease, as in the glands of the ileum, mesentery, and spleen in typhoid, the stomach, duodenum, and liver in periodical and yellow fevers, etc., we must early and accurately use such remedies as palliate or modify these local developments wherever they may be manifested, and thereby prevent such structural changes in these directions as might otherwise end in fatal exhaustion. 4. Finally, as all acute morbid processes, when established, are progressive through the successive stages of increase, culmination, and decline, or destruction of the patient, we must carefully adjust both our remedial agents and nutrient materials to the actual stage of progress of the disease, and the capacity of the patient to receive and appropriate the same; ever remembering that the same remedial agent that might be of great value in the first stage, might be injurious or even destructive if used at the stage of culmination, or still more in that of decline. Hence specific remedies for acute general diseases can be rationally or successfully used only when aimed at the destruction or elimination of the specific causes, and in the first stage of morbid process. Indeed, the chief benefits thus far derived from the use of antiseptics and germicides, have been as preventives in the incubative and prodromic stages, rather than as curatives after active morbid processes have become manifest.—*Journal of the American Medical Association.*

The Question of Hemorrhage after Operations.—One of the chief factors contained in the prognosis of any surgical operation is the question of hemorrhage, and the extent of the latter will depend upon the nature of the operation, and the age, sex, and constitutional state of the patient. As is well known, loss of blood is accompanied by a corresponding decrease of the number of red blood-corpuscles and a reduction of the quantity of hæmoglobin. If, therefore, by means of the hæmometer we estimate the quantity of hæmoglobin before and after an operation, we can form an approximate idea of the extent of the hemorrhage. This had been recently attempted by Professor Mikulicz, the result of whose investigations are formulated in a paper read before the late Congress of the German Surgical Society. Dr. Mikulicz has examined the blood of four hundred persons, at various periods before and after operations, making altogether four thousand examinations. These revealed that the largest quantity of hæmoglobin is present in the blood between the ages of twenty and thirty years, while in children under ten years it is at a minimum. In females the quantity is less than in males at all periods of life. An interesting part of these investigations is that relating to the time required for the regeneration of the hæmoglobin after hemorrhages, the rapidity of its formation depending, of course, upon the severity of the hemorrhage. The most rapid reproduction was observed in young men, the average time required being ten days, while in aged females it was prolonged to three times this period. The old observation was confirmed, that children and aged persons are more seriously affected by losses of blood than individuals of middle age. In general, for every five per cent. of hæmoglobin lost, five days of regeneration were required. As regards the maximum loss of this element which patients were able to survive, it was noted that a reduction of twenty per cent. was always followed by a fatal result. As might be imagined, the quantity of hæmoglobin was always found considerably reduced in persons suffering from tuberculosis, and the period of regeneration after operations was always six or eight days longer than under normal conditions. The same was observed in cases of syphilis, actinomycosis, and malignant tumors, while benign growths which did not react on the general health were without influence. It is also a curious fact that the prolonged administration of chloroform in operations unattended with loss of blood, produced a decrease of the hæmoglobin. The author thinks that the knowledge gained by a large number of observations of this nature may prove of inestimable value to the surgeon. For, if it is possible to determine the minimal quantity of hæmoglobin necessary to sustain life in persons of different age, and suffering from various diseases, and to estimate the amount of loss in different surgical procedures, we will be able to decide with mathematical certainty whether the patient is at any given time in a condition to survive an operation.—*International Journal of Surgery.*

The Microbe of Granular Ophthalmia.—Dr. Shongolowicz has described a plan of preparing and staining specimens of granular ophthalmia by means of which the true nature of the microbe which is the cause of this disease can be made out (*The Lancet*). This is not, as has been supposed by other observers, a micrococcus, but a short bacillus, from 0.75 μ to 2 μ in length and 0.3 μ to 0.5 μ in breadth. It is not easy to stain, gentian violet being on the whole the best stain for the purpose; different segments, too, take very different degrees of stain, and this it is which has given rise to the idea that the microbe is a micrococcus arranged in lines or chains. A number of experiments were made on the eyes of animals, with the result that in two cases an affection was produced which bore considerable resemblance to granular ophthalmia.

Contagious Tuberculosis.—Dr. Ollivier has recently reported a case of contagious tuberculosis at Neuilly. A family of seven occupied a house in the Rue du Pont. In the course of two years five out of the seven were attacked with tuberculosis; two are dead and three are seriously ill. Inquiry showed that the house had formerly been occupied by a family suffering from tuberculosis; in 1887 a child died in it from that disease. It is supposed that this case, which was the first, is the origin of the contamination. Dr. Ollivier concludes from this, and the other cases brought under his notice, that it is dangerous to inhabit a house which has been previously inhabited by tuberculous patients, unless it be thoroughly disinfected. The paper should be stripped off, and the walls whitened with lime; the wainscotting and floor should be scraped and washed with a 1 in 1,000 solution of corrosive sublimate.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, November 8, 1890.

IS DIABETES MELLITUS EVER CONTAGIOUS?

MANY theories have been advanced to explain the origin of this complaint. It has been ascribed to heredity, to excessive use of certain foods, to sudden grief, etc. It is probable that diabetes mellitus is not a single disease, but rather a symptom which is common to several disease processes.

In the *Berlin. Klin. Woch.*, No. 20, 1890, the theory is advanced by Dr. Schmitz that certain cases of diabetes mellitus arise by contagion. He opposes the theory of an emotional cause, on the ground that in cases under his care the reception by diabetic patients of the most depressing news, which has almost driven them into insanity, has had no influence whatever upon the amount of sugar excreted. His experience with diabetes mellitus embraces now more than two thousand cases. He was first led to suspect that the disease could be communicated from one patient to another by observing the frequency with which husband and wife were affected. He has now collected twenty-six cases, in which persons in good health (generally wives), free from hereditary taint, not great sugar eaters, and who have never had rheumatism, have suddenly manifested unmistakable symptoms of the disease, after prolonged and confining attendance upon diabetic patients not related to them by blood.

Although his theory conflicts with the teachings of eminent writers, he feels that such a rich experience warrants an open expression of his belief. Circumstances have hindered him from supporting his views by experiments looking toward the production of the disease in animals. He gives, however, instead of such records, a brief account of several of the more striking cases in his practice.

In one case, a man of forty-eight years, suffering with diabetes for two years, was treated at the sanatorium. Two years later he returned still diseased, and his wife, a previously robust and healthy woman, came with him to be treated for the same trouble, which led to her death a few months later. No other cause than contagion could be discovered.

In another instance, a man of thirty-eight years, known to have had diabetes for one year, died in the sanatorium a month after arrival. Two months after his death his widow, who, when she brought him to the sanatorium, had been a picture of health and who had nursed him there, asked advice for an intense pruritus, which was readily traced, after careful examination, to diabetes mellitus. She presented no evidence of hereditary predisposition to the disease, and no other cause than contagion could be found. She returned next summer for treatment, and in the autumn married again, the husband being healthy, of good family history, and not her blood-relation.

Two years later they returned together, both having plain symptoms of diabetes mellitus.

In a third case, a lady who died of diabetes had been attended most faithfully by a young friend twenty-five years of age. This young lady was in full health and very robust, without family history of diabetes or any other known predisposing influence. Shortly before her friend's death she began to feel somewhat out of health, but this she ascribed to the strain of nursing. Several months after her friend's death, on her return from a trip to Switzerland, she sought advice on account of debility and loss of flesh, which had persisted in spite of mountain air and the milk-cure. Her urine contained five per cent. of sugar.

Dr. Debove, of Paris, has also observed cases very similar to those reported by Schmitz, and made his observations the subject of a paper read before the Hospitals Medical Society, in July, 1889. He does not seek the explanation of these occurrences in contagion, however, but rather believes with Lecorché that the coincidence of the same disease in man and wife, or in persons living together, is due to the fact that both make use of the same unsuitable and defective nourishment, and that they share with each other various mental anxieties and other etiological conditions.

RESUSCITATION OF THE APPARENTLY DROWNED.

FOR the revival of persons who have been nearly drowned, two chief methods (with numerous slight modifications of each) are in use: the "Sylvester" and the "Marshall Hall." In 1862, a committee appointed by the Royal Medical and Chirurgical Society of London, to consider the rival claims of the two methods, reported in favor of the method of Sylvester, on the ground that the amount of air introduced into healthy lungs by this method was double that introduced by the method of Marshall Hall. The committee recommended that the body should be placed at an angle of thirty degrees, face downward, with the head lower than the feet, the mouth being open and the tongue drawn forward. The escape of fluids might be assisted by slight pressure on the back. After a few seconds the body should be laid back downward with a cushion under the shoulders, the tongue hanging out of the mouth. About fourteen times a minute the arms should be drawn above the head and then lowered and pressed, by the elbows, against the chest.

In the Transactions of the above-mentioned society for 1889, Dr. Bowles criticises very earnestly the conclusions of the committee, which had been indorsed by the society. The committee based its report upon experiments made with the *empty* lungs of animals. The physician, however, has to deal with human beings whose lungs are filled with fluid, mixed with air in a blood-stained froth. Under these conditions the most useful method must provide not only for the inspiration of air, but also for the escape of this frothy liquid from the deeper air-passages.

The sudden introduction of a large quantity of air by the Sylvester method is injurious, because at the same time the froth is drawn deeply into the finest tubes, which before contained a little air. By the Marshall Hall method, however, the air is introduced gently and in small quantities, and the froth is not drawn in more deeply, but is gradually expelled with each expiratory movement. Dr. Bowles supports his statements by the recital of a number of cases which he has treated.

After the patient has been placed for a moment with face downward to allow the escape of water from the mouth and throat, he is turned on the side and *kept on that side* continuously, except when (about fifteen times a minute) the body is rolled for a few seconds upon the face again. By *keeping the same side always up* the lung on that side becomes clear. Turning first one and then the other side up is dangerous, because thereby the partly cleared lung is suddenly flooded with fluid from the lung which was downward. It is better to clear one lung entirely than to have both half cleared. Each time the body is turned upon the face a little more froth and water escapes from the mouth and nostrils. If one lung is thus cleared it may escape the inflammation which results from the inspiration of water. When the upper lung has been almost cleared, Dr. Bowles finds it useful to raise the upper arm above the head as in the Sylvester method, since the entrance of larger quantities of air into the lung is now safe. Pressure on the back at each pronation assists the escape of water somewhat, and it has a good influence on the heart, aiding the propulsion of blood toward the lungs. The continued use of the prono lateral method is an excellent mode of keeping the pharynx clear of obstruction.

POST-MORTEM PRAISE.

THE great majority of our readers are probably unfamiliar with the name of the late Dr. Handfield Jones. Yet his memory has just received a tribute which no one can read without feeling warmly toward its author, Dr. Wilks, or without feeling a special interest in the object of the eulogy. We publish it elsewhere, for it is helpful reading. One can but think, however, of the pleasure it would have given Dr. Jones if he could have had such a testimonial when alive. Post-mortem tributes have usually an empty sound, even when they are sincere and eloquent like that of Dr. Wilks. The regret comes, as we have suggested, that it could not have been made to warm the heart and cheer the declining years of him who has passed away.

The German practice of having "jubilees," in which the life-work of the aged savant is reviewed and praised, has many things to commend, and might well be adopted in other countries.

RUSTY-NAIL WOUNDS AND THE BACILLUS OF MALIGNANT ŒDEMA.

BEFORE the era of bacteriology various unsatisfactory explanations were given by surgical writers of the well-known danger which attends the reception of punctured wounds from dirty or rusty implements and from nails or splinters which have become covered with dust or soil. Even when the doctrine of antisepsis had opened the eyes of practitioners to the source of infection of wounds in hospitals from the conveyance of disease-matter from patient to patient, the cause of danger from old nails and dusty or earth-covered splinters, in country homes, remained a mystery, for it could not be supposed that they were the carriers of disease-matters, and it was well known that deep incised wounds were not in themselves, even when made with blunt instruments, more dangerous to life than other wounds. Why, then, the frequency of tetanus and gangrene after wounds from dusty or earth-covered objects? That it is due to rust, when from nails, is impossible, for rust is the oxide of iron, which is harmless.

By the patient researches of laboratory workers this problem has now been solved in a way which is both interesting and utterly unexpected. It seems that there is a class of microscopic organisms which is characterized by the inability of the organisms to grow and multiply in the presence of oxygen (or of air). To this class belong certain organisms which have been obtained from the tissues of animals dying of certain forms of gangrene which follow such wounds as have just been mentioned. Their life-history most beautifully explains the danger of these wounds.

The clinical results of such a wound may be well illustrated by a case reported by Dr. Hoegh (*Medical News*, September 27, 1890). The patient, a girl, aged eleven, while walking barefooted on a barn floor covered with manure, trod upon a nail, which caused a punctured wound of the right foot about two inches behind the head of the second metatarsal bone. There was very little bleeding, but great pain, and swelling of the foot, with redness of the part, soon appeared. The pain continued till the third day, when the toes became white and insensible. At the end of three and a half days she was brought to hospital. The foot was now black and gangrenous up to the tarsal bones. There was no suppuration, but small gas-bubbles were seen. Œdema and purplish discoloration reached to the ankle, and there were streaks of lymphangitis up the leg. The nail-wound could not be seen. The temperature was 101° F., the pulse 120. The mind was dull, as if from partial collapse. There was great pain. On the following day the temperature was 103° F., the gangrene reached to the malleoli, and the œdema nearly to the knee. The leg was amputated above the knee. Rapid recovery ensued.

Bacteriologists tell us that in such cases the œdema and gangrene are caused by the introduction into the wound of the *bacillus of malignant œdema*, a microscopic organism belonging to the above-mentioned group of organisms which cannot grow in the presence of oxygen. This bacillus is extremely widely distributed, being present in almost all decomposing substances. The spores are found in every specimen of earth which has been impregnated with putrid fluids, and also in the dust of rooms, in the dust of rags, of hay, etc. It will not grow in an open surface-wound, but in order to active development the earth or dust which carries it must be deposited in the wound beneath the cutis in such a way that air cannot reach it. Then it grows rapidly and produces malignant œdema, followed by gangrene and rapid death of the patient. The bubbles of gas are said to be produced by a kindred bacillus which accompanies it.

Besides mankind, horses, sheep, and swine, but not neat cattle, are affected by it.

When such a wound has been received, and it is probable that it has been infected by the bacillus, artificial anæmia should be produced by Esmarch's bandage, and the wound should be laid freely open so that it can be seen and cleansed to its very bottom. It should then be thoroughly cauterized with galvano-cautery or hot iron, and dressed antiseptically. If malignant œdema occurs, amputation will save the patient's life.

"IF YOU GO TO COLORADO YOU CAN NEVER RETURN."

THE Seventh Annual Meeting of the American Climatological Association was held in Denver, Col., during the first week of September. The most interesting question under discussion, both to the physician and to the patient, was as to when a consumptive who has gone to Colorado can safely return to a lower altitude. It could not have failed to be suggestive to the very many consumptives who listened to this discussion to learn that physicians from Boston and other places along the sea-shore believed it safe for many patients to ultimately return to their homes; while the doctors from the high altitudes held that it was unsafe for a consumptive ever to return to a low altitude except for short periods of from four to eight weeks during the usual vacation months of July and August. The personal interest which some physicians feel for their patients at times obscures their clear comprehension of the relations which various phases of treatment hold toward each other. So in this instance the question of altitude has been confounded with the question of climate.

It appears to us that the treatment of tuberculosis, whether of the lungs or other tissues, is of two kinds, general and local. Under the general treatment comes the question of climate; under the local, that of altitude. During the past years very considerable advances have been made in the general, or, as it may more properly be called, hygienic treatment of tuberculosis. It is now generally accepted that tuberculosis under favorable conditions is a self-limited disease; and that if the patient can be kept alive long enough he will get well. To this end the hygienic treatment gives to the patient all that which will tend to improve his general well-being, such as proper and abundant food, the greatest possible number of hours in the open air and sunlight, the most perfect protection against colds and all provocatives of coughing, and such surroundings as shall be conducive to a cheerful frame of mind. It is more than possible that these things cannot always be best obtained in high-altitude resorts. The local treatment consists in the application of certain medicaments, medicated air, dry air, hot air, the pneumatic cabinet, the rarefied air of high altitudes, etc. The confusion has perhaps arisen because it has not been recognized that the rarefied air of high altitudes acts in the same way as excitants to coughing, namely, to increase the lung-activity. Functional activity of a tissue infected with tuberculosis favors suppuration and a rapid elimination of the infecting germs; functional rest favors a slow elimination by starvation. In a tissue such as the lung, if the tubercular focus be small and localized, and if the patient's strength be still sufficient, the suppuration and rapid elimination which the rarefied atmosphere of high altitudes gives favors a rapid and perfect cure. In support of this we find a unanimity of opinion among the members of the Association that cases of pulmonary tuberculosis coming to Colorado sufficiently early, as a rule, permanently recover. On the other hand, if the tubercular infiltration be diffuse, if the patient's strength be not good, or if the disease be well advanced, the functional activity induced by rarefied air tends to a rapid termination of the life of the patient. In this, too, the members were agreed, that many cases of phthisis in an advanced stage were made worse by going to Colorado. In a word, it would appear that there are certain cases that are more rapidly cured, and other cases that are more rapidly killed, in a high than in a low altitude.

News of the Week.

The Clinical Use of the Phonograph has been attempted in this country, but without very great results. Better success seems to have been obtained in London. The *British Medical Journal* says that Mr. Ernest Hart recently suggested to Colonel Gouraud that the phonograph might with great advantage be employed to record the characteristic changes in voice-sound which mark a variety of diseases, such as whooping-cough, laryngismus stridulus, and the characteristic forms of dysphonia indicative of some forms of hysteria, and partial paralysis of the vocal cords, dependent upon pressure upon the recurrent laryngeal nerve. This suggestion Colonel Gouraud readily acted upon, and Dr. Felix Semon kindly consented to select from his patients at St. Thomas's Hospital a few cases in which pathological varieties of phonation were present. This was carried out with great success, and on Tuesday night, at a social gathering at 38 Wimpole Street, at which a considerable number of eminent medical men happened to be present, the phonograph reproduced the characteristic vocalization of some of these diseases with the most realistic effect. The whoop of whooping-cough, with the intervening cries of the patient, were as vividly reproduced as if the child were in the room, and so also were the hoarse utterances of a case of stenosis of the larynx. The opinion was generally expressed that this new application of the phonograph to the purposes of diagnostic and clinical instruction constituted a solid gain for teaching, and probably for many other purposes.

Dr. Samuel Wilks's Eulogy of Dr. Handfield Jones. – SIR: It would give me great pleasure if you would afford me a small space to enable me to offer my tribute of respect to the memory of the late Handfield Jones. I am sure I can say, in the name of all pathologists, that his work has been of the best and most enduring character. Its value has been enhanced by the spirit in which it was undertaken. Handfield Jones, more than nearly all men whom I have known, worked in the *siccum lumen* of Bacon. He was a pure scientist, had no ulterior object before him in his researches but the discovery of truth, and thus his labors bore no fruit in practice or other pecuniary rewards. They were contributions to science, and

went simply to enrich the department of medicine to which he was devoted. I believe this was generally admitted, for I have heard, for example, some of our most distinguished men declare, when they were discussing the morbid changes in the lungs and blood-vessels, how indebted they were to Handfield Jones's paper on "Fibroid Degeneration," published in the year 1854. I know of no one who worked in a more purely scientific spirit, and his ardor only ceased with his life, for it was but recently that he was making original researches on the degenerative changes in the vessels of the brain. As was his purely scientific spirit, so necessarily was his whole character, for he always seemed to me to be pursuing the most honest, simple, and blameless life. There are others who may gain larger and more popular fame, but it is fleeting and ephemeral, while the name of Handfield Jones will, while medicine has a scientific basis, forever endure. I am, etc.,

SAMUEL WILKS.

Points in the Diagnosis of Gastric Disorders.—Professor Ewald, says the *British Medical Journal*, in examining the condition of the œsophagus, attaches great importance to the sounds heard with the stethoscope placed on the pit of the stomach. The sounds which accompany and follow the act of swallowing are normally two, viz., the first, *Spritzgeräusch* (syringe gurgle); and the second, or *Luft-geräusch* (air gurgle). The first has no diagnostic value, and is often absent in cases of hysteria, etc. The second is of great significance, and when present denotes a normal contraction of the walls of the œsophagus; the absence of the sound signifies a stricture or obstruction of the middle or lower third of the œsophagus. The best tests for free hydrochloric acid are tropæolin and Günzburg's reagent phloroglucin-vanillin. The routine examination of the contents of the stomach to determine the amount of acid present is carried out as follows: 10 cubic centimetres of stomach-contents are taken and two drops of phenolphthalëin added thereto in a saucer. To this a standard one per cent. salt solution is added drop by drop from a graduated tube till the color changes to red. The percentage of acid present is determined by the amount of salt solution added, the normal acidity being between forty and sixty cubic centimetres of this graduated tube. The absorptive power of the stomach is determined by giving iodide of potassium internally; this should be found in the saliva in from fifteen to twenty minutes. To ascertain the motor power of the viscus, a capsule of salol (one gramme) is given, and the urine tested with perchloride of iron for salicylates. Another, less convenient, method is to give a definite quantity of oil by the mouth, and after a given interval remove the contents of the stomach and ascertain the quantity of oil still present.

"So much a Foot."—A bran-new graduate, fresh from the parting embraces of his *alma mater*, was called to attend an old lady suffering from tape-worm. Having relieved her of the parasite, he sent in an account for 10s. 6d., which the patient thought exorbitant and asked for particulars. These were given in the following terms:—"For delivering you of a tape-worm 10½ feet long, at a shilling a foot, 10s. 6d."—*Medical Press.*

Dr. Alfred Vogel, of Munich, well known for his work on Children's Diseases, died October 9th, in his sixty-first year.

Rates on Surgical Chairs.—The Inter-State Commerce Commission have ordered that the present rate on surgical chairs be reduced, in less than carloads, from double first-class to first-class, or a reduction of about one-half in the rate. This was what the rate was formerly for a long period of time, and until recently, when it was advanced to double first-class, under the analogies of classification.

A New Anti-fat Remedy.—Dr. M. M. Griffith affirms (*Indiana Medical Journal*) that pills made from the extract of poke-berries are a reliable anti-fat. "It has been my custom," says he, "to gather, in the fall after frost, a quantity of berries, express their juice, and evaporate it to the consistency of an extract, of which I make pills of three or four grains. The dose is two pills before each meal, sometimes increased to three or four."

The Didactic Lecture Must Go.—The medical college course has been lengthened to three years in almost every reputable college, and now, says the *Indiana Medical Journal*, it is time to take the next step in progress and abolish the didactic lecture. This is the view which the RECORD has advocated, and it is one which must in time be adopted.

Portrait of the Late Professor Joseph W. Howe.—The house staff and alumni of St. Francis Hospital, New York, have presented to that institution a fine life-like crayon portrait of Professor Joseph W. Howe, M.D., in commemoration of his long service as attending surgeon. It is fittingly hung in the operating-room, where he labored so skilfully and successfully.

The American Academy of Medicine will hold its annual meeting at Philadelphia, Wednesday and Thursday, December 3 and 4, 1890. Richard J. Dunglison, *Secretary.*

Queens Co. Medical Society, N. Y.—The semi-annual meeting of the Queens County Medical Society was held at Areson's Hotel, Mineola, on Wednesday, October 29th. The meeting was well attended and considerable interest was manifested in the discussions. Several new members were admitted.

Dr. R. L. Watkins is the name of the author of the excellent article in the last issue, entitled "Electrolytic and other New Uses of Storage Electricity." It was erroneously printed Watson.

A Hospital Bequest.—The City Hospital at Youngstown, O., has received $5,000 by the will of Miss Lucretia J. Althaus.

Dr. Strong, for many years superintendent of the Northern Ohio Asylum for the Insane, has resigned.

New Jersey State Medical Board.—At the recent—first—meeting of the Board, held at Trenton, eleven candidates presented, and of these ten attained the necessary average of seventy per cent. and were passed.

Medical Achievements in China.—Dr. Kerr, a medical missionary at Canton, has, in the past thirty-six years, treated over 520,000 patients, and has prepared twenty-seven medical and surgical books. He has trained one hundred medical assistants, chiefly Chinese. China now possesses one hundred and four hospitals and dispensaries, at which, in 1889, more than 348,000 patients received treatment.

The King of Holland is seventy-four years of age; he has Bright's disease, uræmia, and dementia.

The Football Season is now at its height, and it has so far been free from many serious casualties. In England this is not the case, and the medical journals report mortalities almost every week. Medical opinion is setting decidedly against the game. In this country the rules against rough play are very stringent, and are apparently better enforced than they are in England.

Hospitals for Alaska.—Dr. Clarence Thwing, of Brooklyn, has accepted an invitation to establish one or more missionary hospitals in the Territory of Alaska, beginning at Sitka.

The Ambulance Surgeon has a rather unfortunate time of it. If he is behindhand he is abused; if he is in too much of a hurry he is blamed; if he thinks the patient will die on the way, and refuses to take him, he is censured; and if he takes the patient, and does get him to the hospital alive, the victim is announced to have been hustled to death. This is not a perfect world; but, take it all in all, our city ambulance system is probably better than that anywhere else.

The Marks of a Poor Physician.—Dr. Broadbent, in an address before the British Medical Association, says a mark of a weak medical man "is the indiscriminate use of stimulants in fevers, a ready resort to narcotics and sedatives, treatment directed to symptoms only, and a fondness for new drugs of high-sounding names."

The Curiosities of Blushing.—In a book on "Flushing and Morbid Blushing," Dr. Harry Campbell cites these cases: Man, aged twenty-seven. Was a soldier, but compelled by excessive blushing to give up his profession. Man, aged twenty-eight. Has recently had to give up the study of medicine through excessive blushing. Man, aged thirty-two, minister. Is so afflicted by blushing that he has latterly entirely given up duty. Another patient is a commercial traveller; and a telephone clerk is so badly affected that he turns scarlet even when speaking through the 'phone.

The Effects of Politics on Lunatic Asylums.—Dr. P. H. Kretzschmar, the presiding officer of the Board of Supervisors, at Brooklyn, has recently had occasion to write a very caustic veto touching a bill for repairs at the branch asylum for the insane at St. Johnland. The branch, also called the County Farm, is forty-two miles distant from the old asylum at Flatbush, and has proved an unexpectedly heavy burden on the taxpayers on account of "extras." It seems likely to cost the county only a trifle less than $2,000 per capita to simply house the pauper insane of that community, the cost of the land, chiefly farm lands and forests, being included. There are costly stone-built and fully equipped hospitals in our cities that have cost not more than $2,000 per capita, cost of the land inclusive; while some others, less ornate but equally well adapted to their purposes, have been constructed for $1,000 a patient. From the standpoint of the medical superintendent, the effect of the political pilfering of the pauper lunatic is deplorable.—*N. Y. Medical Journal.*

Succi, the Faster, began a forty-five days fast in this city, at 8 P.M., November 5th. We are informed that several members of the medical profession have undertaken to supervise his performance.

Dr. Roberts Bartholow and Jefferson Medical College.—On October 27th, the Trustees of the Jefferson Medical College declared vacant the Chair of Materia Medica, General Therapeutics, and Hygiene, which for eleven years past has been occupied by Professor Roberts Bartholow. It is stated that this action was taken because Dr. Bartholow declined to resign, despite his ill-health, which has made it impossible for him to perform the duties of the chair satisfactorily to the Trustees. We regret greatly to learn of Dr. Bartholow's illness. His work in the past, as an original investigator, writer, and teacher, has placed him deservedly in the front rank of American physicians.

A Dramatic Suicide.—A telegram from St. Petersburg announces the following startling episode: Dr. Koucharsky, a young professor of medicine, had just ended a lecture on acids when he poured some drops from a phial into a glass. "Attention, young men," he said; "in two minutes you will see a man die. Good-by to you all!" He drank the liquid, drew out his watch, and counted the seconds until he fell to the ground a corpse. The students were speechless and motionless; when they at last tried to apply antidotes it was too late, Professor Koucharsky was dead.

The Syms Operating Pavilion in connection with Roosevelt Hospital, will be finished in about a year. It will have a basement and three stories, with a conical dome sixty-four feet high. The operating arena will have rows of seats capable of accommodating one hundred and eighty-four students, and so steep that the rear seats are but twenty-eight feet away from the operating-table. The wall will be wainscoted with marble five feet above the highest seats. In the dome, forty feet above, will be three skylights ten by sixteen feet, and one twenty-two by twenty-eight feet. No wood will be used in any part of the amphitheatre.

Mr. Edison has given $1,000 to the benevolent institutions of Dresden, in recognition of the care and attention bestowed on a member of his family in one of the hospitals of that city last year.

Death from Methylene.—At the South Devon Hospital, Plymouth, England, bichloride of methylene is almost exclusively used as an anæsthetic. A death from its administration is reported by Mr. R. H. Hughes, occurring in a man aged fifty-one, with a fatty heart. This is the first death in about two thousand administrations.

Tomatoes and Cancer.—Why or wherefore it is impossible to say, but in some unaccountable fashion the impression has come largely to prevail among the public, that tomatoes are a cause of cancer, and that for this reason the delightful vegetable in question must be eschewed. The only connection that we know of between cancer and tomatoes is that within past years there has been a large augmentation in the death-rate from cancer, and an enormous increase in the consumption of tomatoes.—*Medical Press.*

Epidemic Blindness.—An epidemic of blindness, probably hysterical, is reported as prevalent among the working-girls of Wheeling, W. Va.

The Southern Surgical and Gynecological Association will meet in Atlanta, Ga., November 11th, 12th, and 13th.

A Novel Percussor.—Dr. Kablerski, of Breslau, has invented a novel percussor in the form of a tuning-fork with a cylindrical stem, which is held between the finger and thumb, and thin prongs with rounded free extremities for striking the surface of the body. He claims for this instrument that it distinguishes smaller areas from one another than the ordinary method of mediate percussion can do. He has mapped out by its means the varying movements of the apices of the lungs, and believes that he has shown that the boundaries of cardiac dulness as usually given require to be somewhat modified.—*Lancet.*

The Provost of the University of Pennsylvania announced, at the recent dinner of the medical alumni, that the compulsory course for the medical degree in that university had been lengthened to four years.

A Good Example.—The *Nordiskt Medicinskt Arkiv* is a monthly journal published at Stockholm by learned descendants of the Vikings. The name is not melodious, nor do its syllables drop from the lips like the melting music of the Italian speech, but the journal sets a good example to Italy, and arouses the kindliest feelings in our bosom as we take it up. For while the body of the journal is filled with original "Bidrags," "Bemärkninger," etc., there is an appendix in which summaries of these articles are given in French. This saves us from turning important Scandinavian literature over to our polyglot editor, who is at present much engrossed in practising the Chinese dialects, talking to himself in Russian, and answering in Czechish. The example of the *Nordiskt Medicinskt Arkiv* deserves imitation from other countries in Europe. The world is to have but three languages, English, French, German (and perhaps Bostonian); and the smaller nations of the globe would help their medical brethren if they recognized this.

Sanitation.—The Trades Union Congress is not a likely place for the ventilation of sanitary matters, but during that just held several matters of hygienic importance have been brought forward. With regard to insanitary factories, it was pointed out that the number of inspectors is insufficient. "Sweating" was a sanitary, as well as an economic, evil, for clothes were made under conditions calculated to spread disease, *i.e.*, in workshops where the workers had only from one hundred and twenty to one hundred and eighty cubic feet of space each, whereas convicts in prison had from four hundred to five hundred cubic feet. It was a mistake to imagine that only very cheap clothes were made in sweating dens; garments ordered for the Royal Family had been traced to the East End. A strong opinion was expressed at the Congress in favor of extending the provisions of the Factory and Workshop Act to domestic workshops; the laundresses' delegate wished all places where washing was done to be included. A resolution was also unanimously passed at the Congress in favor of the compulsory registration and examination of plumbers.

Tri-State Medical Association.—The Committee of Arrangements have postponed the next meeting of the Tri-State Medical Association until November 19th and 20th.

Post-graduate Schools.—Further post-graduate courses are about to be held in London and in Edinburgh. Similar instruction is also about to be inaugurated in several provincial medical schools.

A New Policlinic at Vienna.—An association of physicians and privat-docentens has been formed here, with a view of founding a new policlinic, where post-graduate courses will be given. It is believed that the opening of this new institution will take place in February next.

After July 1, 1893, the Colorado State Board of Health will accept the diplomas of no school which does not have an obligatory three years' course of instruction of five months each in three different years.

Atropia not a Specific in Enuresis.—In enuresis of children Dr. R. B. James found atropia often effective, so long as its administration was continued in full doses. But after leaving off the drug the patients were no better than before. His plan was as follows (*Archives of Pediatrics*, September, 1890): A solution of atropia sulphate was made, of which one teaspoonful represented one-hundredth of a grain of the drug. Of this solution, for the first night, each child had one teaspoonful at 6 and another at 9 P.M., and this to be increased by one teaspoonful every night till a controlling dose was reached for each case. None of them were benefited by less than four hundredths of a grain at night—that is, two hundredths of a grain at 6 and two hundredths of a grain at 9 P.M.—while others required as much as eight-hundredths of a grain (divided as above); one case was given as much as one-tenth of a grain at night without showing symptoms of poisoning. Nothing short of the quantity that produced full physiological effects was of any avail. After the controlling dose was ascertained for each case, it was repeated every night for about one month, when the drug was withheld altogether. It was found that many of the cases were relieved, while others were not benefited. Of the cases completely relieved, the enuresis returned in all, with one exception, in periods ranging from one to six weeks. The case that was cured was a healthy boy but slightly affected. These cases were kept under close observation for eight months, during which time many of them would go without the drug, or on reduced doses, from one to four weeks without wetting themselves. But sooner or later the relapse would occur, and at the end of the eight months they were but little better than when treatment was started.

Mortality in European Armies.—Recent statistics relative to the mortality among European troops in time of peace show that the Spanish army occupies the place of dishonor in this particular, with a death-rate of 13 per mille. Russia comes next with one of 9, then Italy with one of 7.74. Next in order come Austria with a mortality of, in round numbers, 7 in the thousand, France with 6, England with a little over 5, Belgium a little over 4, and Germany a little over 4. Consumption is rifest among English soldiers, and least prevalent among the French.

Reviews and Notices of Books.

MINERAL SPRINGS AND HEALTH-RESORTS OF CALIFORNIA: with a Complete Chemical Analysis of every Important Mineral Water in the World. By WINSLOW ANDERSON, M.D. Illustrated. Pp. 384. Cloth, $1.50. San Francisco: The Bancroft Company. 1890.

THIS handsome book, with its gold embossed binding, makes the patriotic American's bosom swell with pride, for it shows that the mineral springs of America, and especially of California, are as good as their famous sisters in Europe, and, as a rule, much more beautifully located. Balneotheraphy hasn't its proper place in America, for, though it is little used comparatively, the mineral waters have proven to be of great benefit in the alleviation and eradication of many of the most chronic and intractable diseases. In Dr. Anderson's work, the physician can obtain a proper knowledge of the subject, and learn where he can find invaluable mineral waters within comparatively easy access. The author is a well-known teacher of chemistry, and his book was awarded the last annual prize of the Medical Society of the State of California. He is also editor of the *Pacific Medical Journa..* These facts speak volumes in favor of the book and insure its reliability and pleasing qualities.

FIFTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF MAINE. For the fiscal year ending December 31, 1889. 8vo. Pp. 318. Augusta: Burleigh & Flynt. 1890.

THIS report contains very much of value and interest. Circulars have been issued for the use of teachers, school officers, and non-medical members of local health boards, giving the principal characteristics of the infectious diseases and their infection, and brief hints to prevent their spread. The one on consumption is especially complete. Analyses of one hundred and seventy-eight samples of water have been made, the essential points of which are given. Dr. Victor C. Vaughn contributes an interesting paper on "Healthy Homes for the Working Classes;" and Dr. A. G. Young on "Various Sanitary Topics," the remarks on tuberculosis and consumption, diphtheria, typhoid fever, and the various means for disinfecting being especially valuable.

A TREATISE ON MASSAGE. By DOUGLAS GRAHAM, M.D., Fellow of the Massachusetts Medical Society, etc. Second edition, revised and enlarged. 8vo. 342 pages. New York: J. H. Vail & Co. 1890.

THE first edition of this work was published six years ago; and it would, perhaps, have been better if the second edition had not been revised and enlarged. We do not need to be told that massage is not a new remedy; neither is it any longer an unknown one. Its indications are well known and its value recognized by the bulk of the profession. This present volume is interesting as far as the historical part goes, and it is valuable in so far as the details of the application of the remedy are concerned; but it cannot be of advantage to those interested in the subject to have put forward some claims which we find herein, to wit:

"The patient urinated by drops. Six centimetres behind the meatus was an impermeable stricture. Emollient applications having failed, Antal tried massage, and after three séances was able to pass a small metallic sound, and after seven days could pass an English sound, No. 13, and the callus had entirely disappeared."

"Dupuytren's finger contraction, consisting of hyperplasia and induration of the palmar fascia, the result of slight injury and reflex nerve irritation, has been successfully treated by means of massage."

"Habitual scoliosis arises from superincumbent weight, the original cause of which is weakness of the muscles, and therefore the treatment has to be directed to them. . . . After this the spinous processes are acted upon by stroking from behind upward, and pushing them directly toward the concave side so as to equalize the curves. . . . A well-schooled anatomical eye, therapeutical instinct, inclination to treat such cases, together with experience, will lead to accurate treatment and good results." The author attempts to bolster up his position by the name of Landerer. He evidentally knows no more of Landerer and his work than he does of the anatomy of scoliosis. In the same way he refers to Barwell and Billroth to support him in applying massage in cases of tubercular synovitis, apparently unconscious that the pathology and treatment have totally changed since Barwell first wrote, in 1861, on strumous synovitis, and Billroth on fungous inflammations. It is difficult to understand how anyone living within reach of modern medical literature can be so ignorant of the treatment of chronic joint disease.

Ignorance is not perhaps the worst feature of this book, for in the chapter on massage of the internal organs we find that "the operation consists in introducing an index-finger into the cul-de-sac behind the cervix in such a manner that the posterior surface is reached. This is then raised as far as possible, while the fingers of the other hand grasp and knead the uterus through the abdominal walls. Sometimes the uterus is pressed against the walls of the pelvis laterally, or against the posterior surface of the symphysis pubis." And we are then asked to read a report of two hundred and thirty-nine cases treated by this "operation."

With the exception of the parts referred to, the book is written in a very pleasing and interesting style; and is replete with appropriate quotations, like the following with which it closes:

> ". . . they at last a certain ease obtain
> From Katerfelto's skill, and Graham's glowing strain."

ELECTRICITY IN THE DISEASES OF WOMEN, WITH SPECIAL REFERENCE TO THE APPLICATION OF STRONG CURRENTS. By G. BETTON MASSY, M.D., Physician to the Gynecological Department of Harvard Hospital. Second edition. Revised and enlarged. Pp. xii. 240. Philadelphia and London: F. A. Davis, publisher, 1890.

THE appearance of a second edition of this little work within a year is sufficient proof of its popularity. It has been thoroughly revised and new chapters on the application of electricity to the treatment of subinvolution and diseases of the adnexa have been added. The first ten chapters are devoted to the theory and experimental results of electricity as applied to gynecology and the last ten to the special diseases in which it is useful. The law of Ohm is discussed in the appendix. The important subject of the electrical treatment of fibroid tumors receives the attention which it deserves. The chapters on menorrhagia and endometritis are especially valuable. In Chapter xv. the author leaves no doubt as to his conservative position with regard to the indiscriminate performance of laparotomy for disease of the adnexa, predicting a "reaction from this war-time in abdominal surgery." His views concerning the efficacy of galvano-puncture, though decided, are not tinged with that ultra-enthusiasm which has caused the statements of some ardent followers of Apostoli to be viewed with suspicion even by those who have little sympathy with the more extreme school of laparotomists.

The electrical treatment of pelvic pain, or "menorrhagia," as the author terms it, forms the subject of a suggestive chapter, which we regard as one of the most useful to the general practitioner, whose attention is directed to this symptom more frequently than to any other. The more widely the author's view, that dysmenorrhœa is "almost entirely a neuro-muscular phenomenon," is disseminated, the less frequent will be the tendency to resort to laparotomy for the empirical purpose of relieving vague pelvic pains. A chapter on

anteflexion and one on extra-uterine pregnancy (which seems to be too brief in view of the importance of the subject) are among the more important of those which conclude the volume. The style is clear, but condensed. Useless details are omitted, the reports of cases being pruned of all irrelevant material. The book is an exceedingly valuable one and represents an amount of study and experience which is only appreciated after a careful reading.

A Manual of Anatomy for Senior Students. By Edmund Owen, M.B., F.R.C.S., Surgeon to St. Mary's Hospital, London, and Co-lecturer on Surgery (Late Lecturer on Anatomy) in its Medical School. With numerous illustrations. London: Longmans, Green & Co. 1890.

An index to the nature of this admirable work is found in the quotation on the title-page from Francis Sibson: "In a practical point of view, anatomy is of no use unless it can be realized on the living body." And it is with the aim of aiding in this necessary realization that the author has written his book. That he has succeeded in making of the study of anatomy a real pleasure will not, we think, be denied by anyone who takes up the book. The subject is divided regionally and not according to systems, the only way, in our opinion, that a real knowledge of anatomy can ever be acquired, and the way in which it is learned practically by dissection. After treating briefly, though at all-sufficient length, of the anatomy of the parts, the author then applies the knowledge thus gained to practical points in medicine and surgery, both in the way of a diagnosis, and as a guide to operative measures. The work is said to be for the use of "senior students," but there are many "senior practitioners" who would derive no little profit from a careful perusal of its pages. They would find many things recalled that they had forgotten, and perhaps would learn some things that they had never known.

A Treatise on Orthopedic Surgery. By Edward H. Bradford, M.D., Surgeon to the Children's Hospital, Boston City Hospital, and Samaritan Hospital; Instructor in Clinical Surgery, Harvard Medical School. And Robert W. Lovett, M.D., Surgeon to the Samaritan Hospital; Assistant Out-patient Surgeon to the Children's Hospital; Out-patient Surgeon to the Carney Hospital; formerly Assistant Surgeon to the New York Orthopedic Dispensary and Hospital. Illustrated with seven hundred and eighty-nine wood-engravings. New York: William Wood & Co. 1890.

The need of a treatise on orthopedic surgery has long been felt in this country, the only work of the kind being that of Sayre. This department of surgery is still in its infancy, or at best just learning to stand alone, and consequently we cannot expect to find any settled and authoritative methods of treatment. It is therefore well to have more than one text-book on the subject, so that the student and young practitioner may at least have a choice of methods, and need not follow unreasoningly the teachings of any one authority. The work before us is rather formidable in appearance, containing nearly eight hundred octavo pages, but the subject is a vast one, and has long since outgrown the monograph stage. In this book the consideration of diseases of the joints, including Pott's disease of the spine, occupies nearly one-half of the volume, so that the space devoted to the treatment of deformities, or orthopedic surgery, properly speaking, is not excessive. Each subject is treated in a most thorough manner, and is fully illustrated by well-executed wood-cuts. The authors seem to have endeavored to avoid therapeutic dogmatism, and have presented all the chief methods of treatment of the various deformities and joint diseases without passing too positive judgment on them. The young surgeon who is looking for instruction in this branch of his profession cannot go wrong in getting this work. He will find there almost everything that is of value, and in later life he will have but little to unlearn, however much additional knowledge he may acquire from his own experience.

Sanitary and Economic Cooking. By Mary Hinman Abel.

The Lomb Prize Essay of the American Public Health Association. A general discussion of the principles of cooking, especially adapted to persons of small and moderate means; contains a valuable collection of recipes for the preparation of the various kinds of food. An excellent book for nurses and mothers.

An Experimental Study of Lesions Arising from Severe Concussions. By B. A. Watson, M.D. Philadelphia: P. Blakiston, Son & Co. 1890.

This pamphlet of seventy-six pages records the results of a series of 141 experiments, made to determine, if possible, the lesions in those cases commonly called concussion, which have previously been described by Erichsen and Page. We have not space to describe in detail the apparatus used. The animals experimented upon were dogs, and they were dropped suddenly from a height. In each experiment the temperature was recorded for a certain time immediately after and a post-mortem made. The records are systematic and accurate, and well deserve the perusal of surgeons, particularly of those who have to do with the results of railroad injuries.

Field Hospital Service with the Army of the Potomac. By William Warren Potter, M.D., Buffalo. *Buffalo Medical and Surgical Journal* reprint.

The writer entertainingly describes his three years' experience as a medical officer in the above army. Much interesting war history is interwoven in the narrative; several photo-gravure pictures illustrate the text.

Evolution and Disease. By J. Bland Sutton. Pp. 284. New York: Scribner & Welford. 1890.

This is an interesting study in comparative anatomy, normal and pathological. The chapter headings are: The Enlargement of Parts from Increased use, Overgrowth and Irritation, Disuse and its Effects, Vestigial Parts, Dichotomy and Atavism, or Reversion. The pages are profusely illustrated with wood-cuts, and so plainly written as to be easily understood. Mr. Sutton's contribution to the "Contemporary Science Series" deserves unqualified commendation.

Ætiology of Tuberculosis. By Dr. Robert Koch, translated by T. Saure. Reprint from Transactions of the Massachusetts Veterinary Medical Association. New York: W. R. Jenkins. 1890.

This is Koch's elaborate monograph, which is too well known to need comment here.

Massage: a Primer for Nurses. By Sarah E. Post, M.D. 16mo. Pp. 50. Six Illustrations. New York: The Nightingale Publishing Co., 13 West 42d Street. 1890.

This little volume is intended solely for the instruction of nurses; but within its fifty pages it contains more valuable information on the use of massage than any other book on the subject with which we are familiar. Not only is it replete with valuable instruction and sound common sense, but, what is much more rare, it does not contain one unnecessary sentence.

On that much-vexed question of massage of the pelvic organs it is refreshing to read: "Applications of pelvic massage may vary in length from three minutes to three-quarters of an hour." It is not probable, however, that nurses will, for the present at least, be required to undertake this treatment.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1890. Vol. VI. Pp. 445. Ten Illustrations. Edited by Edward K. Dunham, M.D. New York: J. H. Vail & Co.

THIS volume of transactions is an especially interesting one. There are many papers, but they are short and to the point. Of the President's Address—Tubal Pregnancy, by Dr. William T. Lusk—it is not necessary to speak; we all know the worth of all that he writes. Dr. George E. Fell describes a new position, the Laterodorsal, in Gynecic Irrigation; Dr. T. D. Crothers, Alcoholic Paralysis; and Dr. John Shrady, the Shadow-line of Insanity. The subject of Hernia receives a very extended consideration, there being papers by Drs. Joseph D. Bryant, S. E. Milliken, T. H. Square, E. M. Moore, Roswell Park, W. T. Bull, D. M. Totman, and L. J. Brooks. Of the remaining papers, perhaps none are more interesting than a report of one hundred successful cases of Extraction of Cataract without Iridectomy, by Dr. C. S. Bull, and New Hypnotics, by Dr. William H. Flint.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY FOR THE YEAR 1890. Vol. XIV. 8vo. Pp. 480. Detroit: O. S. Gulley, Bornman & Co., printers.

BESIDES the President's Annual Address, by Dr. George E. Frothingham; the address on Surgery, by Dr. F. J. Groner; the address on Practice, by Dr. W. F. Breakey; and the address on Obstetrics and Gynecology, by Dr. J. N. Martin, this volume contains thirty-one interesting and valuable papers, a full review of which we have not the space to give.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Third Session. Vol. II. 8vo. Pp. 296. Twenty-eight Illustrations. Published by the Association.

THE volume is a very creditable production for a society of only forty-four active members. Thirteen papers appear bearing upon the subject of Hip Disease from various points of view. They are by: Drs. R. W. Lovett, Joel E. Goldthwait, N. M. Shaffer, Henry Ling Taylor, A. J. Steele, DeForest Willard, R. H. Sayre, John Ridlon, A. B. Judson, W. R. Whitehead, Bernard Bartow, E. G. Brackett, and John H. Huddleston. Dr. V. P. Gibney appears with a paper on Typhoid Spine; Dr. Louis A. Weigel, on the Relation of Thoracic and Abdominal Walls to the Spinal Column, Considered with Reference to the Treatment of Antero-Posterior Curvatures; Dr. Dillon Brown, on Psoas Contraction as a Symptom; Dr. C. C. Foster, on a Case of Caries of the Ankle; Dr. C. L. Scudder, on a Report of Eighteen Cases of Chronic Disease of the Ankle; Dr. John Ridlon, on a Report of a Case of Congenital Dislocation at the Hip; Dr. George W. Ryan, on When may Treatment be Dispensed with in Spondylitis; Dr. R. W. Lovett, on a Case of Functional Torticollis; Dr. Homer Gage, on Congenital Absence of Five Ribs; Drs. W. N. Bullard and H. L. Burrill, on Surgical Operations for the Relief of Pressure Paralysis in Caries of the Spine; Dr. Henry Ling Taylor, on the Treatment of Pes Equino-varus by Continuous Leverage; Dr. W. R. Townsend, on Acute Arthritis of Infants; Dr. V. P. Gibney, on a Contribution to the Study of Flat-foot; and Dr. T. Halsted Myers, on Traumatism of the Hip Simulating Thyroid Dislocation.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. VIII. 8vo. Pp. 290. Fourteen Illustrations. Edited by J. EWING MEARS, M.D. Philadelphia: P. Blakiston, Son & Co. 1890.

WE can only direct attention to the interesting and valuable papers in this volume. Many of them have been elsewhere published and read; those that have not will well repay a careful perusal. The one perhaps of most general interest is A Sketch of Pioneer Surgery in Kentucky, by Dr. David W. Yandell, in which are detailed the struggles and successes of Brashear, McDowell, McCreary, and Dudley.

Dr. P. S. Connor follows with a tabulated statement on the Surgical Treatment of Tumors of the Bladder. Dr. Stephen Smith takes up the consideration of the Treatmen of Fractures of the Shaft of the Femur. And Dr. C. B. Nancrede and Dr. Heneage Gibbes report a Rare Form of Epithelioma of the Hand. Dr. Thomas G. Morton writes on the Pathology and Treatment of Club-foot, and reports on fifteen cases of excision of the astragalus. The operation of excision of the astragalus is comparatively recent. The first report was made by Mr. Lund in the *British Medical Journal*, October 19, 1872. Since that time a number of operators have reported successful cases, but we do not know of so interesting a group of cases as those reported by Dr. Morton, to whom is due great credit for bringing prominently forward an operation which far surpasses any other for the relief of a certain class of cases of inveterate club-foot.

Dr. W. T. Bull reports on the Radical Cure of Hernia, with the results of one hundred and thirty-four operations. Various methods were employed, but the writer comes to the conclusion that all methods of radical cure will be found unsatisfactory. Dr. C. H. Mastin reports a case of rare Lumbar Hernia. Dr. F. S. Dennis, in a very able paper, discusses the Propriety of the Removal of the Appendix Vermiformis during the Intervals of Recurrent Attacks of Appendicitis. And Dr. J. Ransohoff reports a case of Rupture of the Middle Meningeal Artery without Fracture.

Dr. W. W. Keen tabulates one hundred and thirty-four operations for Nephrorrhaphy, and gives a very careful consideration of the same. Dr. J. A. Comingor discusses the question of Hypertrophy of the Prostate. Dr. David W. Cheever reports briefly a case of Lupus of the Tongue, and a case of Retro-pharyngeal Sarcoma, removed by an external incision through the neck. Dr. Hunter Maguire makes a report on twenty-one cases of Supra-pubic Cystotomy which he has done during the past two and a half years. The interesting point of his operation is that he distends the rectum with an inflated rubber bag, and thus makes the bladder prominent when it contains only a small quantity of fluid. Dr. J. William White, in an exhaustive paper on Antisepsis in the Treatment of Recent Anterior Urethritis, advises the administration of capsules containing salol, three and a half grains; oleoresin of cubebs, five grains; Para balsam of copaiba, ten grains; and pepsin, one grain. Dr. E. H. Bradford sums up a paper on Arthrectomy of the Knee-joint with the following: In one case, motion to ten degrees was obtained after a thorough operation. In one case a sinus resulted and remained for several months. Whether motion be gained in the ultimate result or not, will depend upon the extent of the disease and the thoroughness of the operation.

Dr. Robert Abbe reports two cases of Paranephric Cysts, and discusses the subject in an able paper. Dr. O. H. Allis writes on Fractures and Disjunctures of the Pelvis, and briefly reports on seven cases. And Dr. A. G. Gerster closes the volume with a learned paper on the Removal of a Tubercular Tumor of the Larynx by Laryngo-pharyngotomy.

PHILOSOPHY IN HOMŒOPATHY. By CHARLES S. MACK, M.D. Chicago: Gross & Delbridge. 1890.

THE writer is Professor of Therapeutics in the Homœopathic College of the Ann Arbor University. This book consists of addresses delivered and papers read on various occasions. The writer is evidently a believer in Swedenborg, as he is a reader of and contributor to the *New Jerusalem Magazine*. Two of these latter productions are appended to the "Philosophy."

The writer is a man of temperate views, and does not make any vicious attacks on the "old school." His style is rather obscure in places, and we do not think that he always makes the strongest possible presentation of his cause.

Society Reports.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Sixteenth Annual Meeting, held in Louisville, Ky., October 8, 9, and 10, 1890.

FIRST DAY, WEDNESDAY, OCTOBER 8TH.

PRESIDENT, DR. J. M. MATHEWS, OF LOUISVILLE.

Infectious Dyspepsia, and its Rational Treatment by the Antiseptic Method.—DR. FRANK WOODBURY, of Philadelphia, Pa., said that it was proper to state that our present consideration of the subject is limited to dyspepsia solely as related to the stomach; no reference was attempted, or intended to be made, to intestinal indigestion, or to the so-called intestinal dyspepsia.

With reference to the pathology of dyspepsia, he considered it at least as much entitled to recognition as a distinct disease, in the present unsettled condition of medical nomenclature, as consumption or chorea. Like them, it is characterized clinically by manifestations of nervous disorder. Like pulmonary phthisis, its most marked symptoms are produced by the absorption of the products of parasitic micro-organisms.

Dr. Woodbury summarized as follows: Laborious, painful, and imperfect digestion occurring habitually, when not symptomatic of other disease, constitutes dyspepsia; and when accompanied by fermentation of the contents of the stomach and general toxic symptoms, the result of microbian development, it may properly be called infectious dyspepsia.

The disorder is sufficiently prevalent, and gives rise to enough discomfort and actual suffering in its victims not only to deserve our serious consideration, but also to enlist our best therapeutic skill in their behalf. The excessive growth of micro-organisms during digestion is favored by slow movements of the stomach, and by defective quantity or quality of the gastric juice. Acid dyspepsia, or sour stomach, may be due to excessive secretion of hydrochloric acid (rarely), but is generally caused by lactic, acetic, or butyric fermentation, due to the presence of appropriate forms of bacteria in the stomach. The object of treatment of infectious dyspepsia is to prevent the excessive development of micro-organisms during the digestion of food. This is sought to be accomplished, (1) by the use of articles of diet which are not in a fermenting condition, nor readily fermentible; (2) by adopting such hygienic and tonic measures as will invigorate the bodily powers, and especially bring the gastric juice up to its normal standard of quality and quantity, and increase the muscular power of the stomach; and (3) by local antiseptic treatment, including the administration of drugs which retard fermentation, and especially by lavage or irrigation of the stomach with weak disinfectant solutions, or simply recently boiled water.

Help and Hindrance to Medical Progress.—DR. JOHN H. HOLLISTER, of Chicago, said the possibility of progress is conditioned upon the imperfection of present attainment; results are dependent upon our abilities, upon our methods, and upon the obstacles to be overcome. The profession must command a much higher average of native talent; that talent must receive a much higher grade of culture; and the present methods of research on the part of the profession must be greatly modified and improved.

Coffee.—DR. I. N. LOVE, of St. Louis, said that his experience for five or six years past is strongly in favor of taking a cup of strong, black coffee, without cream or sugar, sandwiched in between two glasses of hot water, before rising every morning—at least, one hour before breakfast. Another cup at four in the afternoon is sufficient to sustain the energies for many hours. In this way the full effect is secured.

Mechanical Obstruction in Diseases of the Uterus.—DR. GEORGE HULBERT, of St. Louis, submitted the following conclusions: 1. That in the natural or normal order of things, we find the uterus in form and structure, endowed with a power and capacity for the performance of the function, menstruation, far in excess of any legitimate demand, to the extent that, with a one-fourth inch diameter of canal at the sphincters, the excess equals 7724.8 times the demand, and with a one-thirty-second inch diameter, the excess equals 120.7 times the requirement. 2. That in the pathological conditions, considered as essential for mechanical obstruction, we find that the conservation of force is capable and does so regulate conditions that the capacity is not abolished, but persists in an eminent degree, so that in the presence of the normal physiological energy, the function is accomplished, save in only one emergency, that of total annihilation of the normal state, namely, atresia. 3. That the phenomena considered as attendant and dependent upon mechanical obstruction, are not due to the forcible expulsion of retained fluids through the uterine canal, but are resident and produced within the tissues, and are dependent upon disturbed rhythm of physiological forces, evolved through abnormal enervation, muscular action, and circulation. 4. That the demand upon the uterus for the passage of blood-clots, membranes, mucous plugs, uterine sounds, sponge-tents, uterine dilators, etc., in order that the diagnosis of mechanical obstruction may be made, is not only vicious in the extreme, but irrational, illogical, and unscientific. 5. That the correct and rational interpretation of the testimony offered by symptomatology, pathology, and therapeutics, removes mechanical obstruction from the domain of gynecology, as a demonstrable fact, save in "atresia uteri."

The Surgical Treatment of Uterine Fibroids.—DR. R. STANSBURY SUTTON, of Pittsburg, Pa., made (by invitation) some remarks, and exhibited specimens.

Professor Flint's Doctrine of the Self-limitation of Phthisis.—DR. WILLIAM PORTER, of St. Louis, said that some time before his death Professor Flint promulgated the doctrine of self-limitation of phthisis, and presented it with all of his well-known power and great ability to the profession. This very interesting proposition was at the time the subject of free debate in various medical societies. After having carefully examined the facts cited in support of the proposition, Dr. Porter said he had no hesitation in asserting that he finds no sufficient evidence to warrant us in accepting the statement that phthisis is self-limiting, or that the element of self-limitation has a decided influence upon the result in any given case. He did not mean that all cases of phthisis necessarily die from this disease, but he does mean that where phthisis is firmly established, there is nothing in the nature of the disease itself that indicates in any stage a fixed boundary—a line of demarkation, as it were—but rather that all of its tendencies are progressive and downward.

Cough: its Relation to Intra-nasal Disease.—DR. A. B. THRASHER, of Cincinnati, said cough is a reflex phenomenon due to the irritation of a nerve-fibre in the air-tubes, larynx, pharynx, nose, ear, stomach, etc. A normal cough is for the purpose of freeing the air-tract from some foreign body. Irritation of the upper part of the trachea, and the ventricles of Morgagni, most frequently produces cough. An irritation in many other locations may be referred by the sensory centres to this region, and thus give rise to cough. Inflammation of the cavernous bodies of the nose or of the adjacent septum has been known to give rise to a distressing cough, and has been mistaken for evidence of tubercular disease. This is more apt to occur in a person of neurotic temperament. The cough due to nasal disease may sometimes be recognized by its metallic ring and the absence of expectoration. It can, as a rule, be provoked at will, by touching the irritable spot in the nose with a probe. Dr. Thrasher recited three cases illustrative of nasal cough from his private practice.

The Medical Student.—DR. JOHN A. WYETH, of New York, said the first or preliminary stage of a medical

student's life is his preparatory or academic life; the second, his medical college life; the third, his post-graduate or practical life, and it extends from the day he leaves his alma mater until usefulness ceases. In the acquirement of a practical training three ways were open, and in order or preference they are: 1. Service as interne, preferably for a term of two years in a general hospital. 2. Service in some post-graduate institution where all departments of practical medicine are taught by teachers especially trained in their respective branches. 3. Service as assistant to one or more well-qualified practitioners in general medicine.

SECOND DAY, THURSDAY, OCTOBER 9TH.

Cases of Penetrating Stab-wounds of the Abdomen, Laparotomy, Results.—DR. H. C. DALTON, of St. Louis, reported six cases of laparotomy in which there was visceral injury. There was one death, and five recoveries. He laid particular stress upon the necessity of following the wounds to the bottom, and making ocular inspection of the same, and severely condemned the method of trusting to the introduction of the finger in the tactus eruditus. He deprecated depending implicitly upon Senn's hydrogen gas test, on account of its fallibility.

Gun-shot Wound of the Intestine.—DR. M. T. SCOTT, of Lexington, Ky., reported a case in which there were four perforations by a large bullet, various complications, and complete recovery following laparotomy (see p. 516).

Torsion of Arteries as a Means for the Arrest of Hemorrhage.—DR. J. B. MURDOCH, of Pittsburg, said there are two methods by which the torsion may be applied: 1, Limited torsion, and 2, free torsion. In the first method two pairs of forceps are required. The first pair grasps the vessel at its cut extremity, and pulls it from the sheath. It is then seized by the second pair at a point from one-half an inch to an inch above the cut extremity of the artery; this second pair being held at right angles to the long axis of the vessel. The first pair is then given three or four sharp turns. By the second method (free torsion) only one pair of forceps is required. It is the one recommended by Mr. Byrant, as not being so likely to injure the external coat of the artery. Dr. Murdoch said in conclusion that the advantages of torsion as compared with ligation are: 1. The greater facility with which it can be applied. 2. Torsion is a safer method, being less liable to be followed by secondary hemorrhage. 3. Healing is facilitated because the wound is free from any irritating or foreign body.

Skulls.—DR. G. FRANK LYDSTON, of Chicago, exhibited the skulls of a number of the most notorious criminals of the world, and made some very instructive remarks with reference to their peculiarities, shape, size, etc.

Wiring the Separated Symphysis Pubis, Supplemented by a Novel Pelvic Clamp.—DR. W. P. KING, of Kansas City, reported a case of separation of the symphysis pubis, with fracture of the interposed fibro-cartilages, fracture of the descending ramus of the pubis, with deep lacerations of the surrounding soft parts, and, more particularly did he refer to the methods resorted to in order to support the pelvis and reinforce the stitches after the pubis had been wired together.

Inguinal Colotomy.—DR. ARCH DIXON, of Henderson, Ky., said: As a measure intended to ward off imminent death, colotomy is called for in all cases of obstruction in the colon, from whatever cause arising. For imperforate anus the operation holds a special position. It is intended to prevent impending death, but it may or may not be regarded as a cure for the disease. In many cases it is the first step in the process of cure. In every infant born with imperforate anus, an operation of a local nature is first attempted; if this fails, colotomy by some method is performed to ward off death. Later on, an attempt may be made to get the bowel to discharge through the anus. In a few words, it may be said that the indications to operate in any given case, depend, in the first place, on the chance which the patient has of getting well without operation; and, in the second place, upon the degree of probability of success following the operation. To cases of acute obstruction of the sigmoid flexure, or elsewhere, there is practically but one termination—death. No case of volvulus, whether of large or small intestine, has as yet been known to recover under treatment purely medicinal. Here then the indication is clear enough, as clear as the indication to tie a bleeding carotid—operation.

Hypnotism in its Relation to Surgery.—DR. EMORY LAMPHEAR, of Kansas City, reported a case of double talipes in which the subject had a chronic Bright's disease, which contra-indicated the use of ether, and, at the same time, had an organic heart trouble, which prevented the safe use of chloroform. The patient wanted to be operated upon, and the doctor hesitated to give the ordinary anæsthetic, and so hypnotized him. This was the first séance, and contrary to the generally accepted idea that at the first séance a sufficient degree of anæsthesia cannot be produced to effect an operation, even at the first séance a sufficient degree of anæsthesia was obtained by suggestion to enable him to perform the operation.

Another case, reported by the permission of DR. SHAW, of St. Louis, was a patient suffering from Jacksonian epilepsy, due to brain tumor. He was hypnotized, the scalp cut, an inch and a half trephine used, the dura mater opened, and a brain tumor weighing one ounce and a half, removed. The bone was replaced, and the operation completed, occupying an hour, without either chloroform or ether being used.

Certainty in the Diagnosis of Tuberculosis.—DR. THEODORE POTTER, of Indianapolis, said the lack of specific curative treatment and of any great tendency to self-limitation after once well under headway, the destruction of tissue, the existence of subtle predisposing as well as exciting elements, the establishment of the vicious circle, including the organs and channels of nutrition, the strange and often persistent delusion of hope, and finally the possibility of arrest or real cure; these factors call in a peculiar way for early treatment. But this must depend upon early diagnosis.

In spite of the constant progress from Laënnec and Flint, there is no one sign and no combination of signs which is absolute. There is always some uncertainty, and in the early or unusual cases we are, and often long remain, uncertain. But now, with the new light of the present added to the knowledge of the past, we are able to make the diagnosis in the great majority of cases, not only early but with absolute certainty.

The Hypodermic Use of Arsenic.—DR. HAROLD N. MOYER, of Chicago, said the hypodermic use of Fowler's solution has been recommended by various writers, who claimed that the dose which could be administered in this way was much greater than could safely be administered by the mouth, Hammond having given as high as fifty drops of Fowler's solution as an initial dose. Again, he has often carried the amount given by the mouth to the utmost bounds of prudence, till the eyes were puffed, and vomiting was almost incessant, and then has continued the arsenic in larger doses, by the hypodermic injection, with the result of the cessation of all gastric symptoms and the cure of the disorder.

In a case of chorea, aged fourteen, female, the patient was placed immediately upon the hypodermic, beginning with three minims of the five per cent. solution, and increasing every second day, until, three weeks after beginning treatment, she was receiving thirteen minims of the solution at each injection, with an arsenic equivalent to about thirty-six minims of Fowler's solution. At the ninth injection she was discharged, cured.

THIRD DAY, FRIDAY, OCTOBER 10TH.

Perineal Cystotomy versus Supra-pubic Cystotomy.—DR. H. O. WALKER, of Detroit, said, in the choice of

method of operation we should be governed, 1, as to its safety; 2, as to its simplicity of performance; 3, as to its rapidity of result; 4, as to its general applicability in the majority of cases. He reported several cases in which he resorted to the perineal method. The perineal method of reaching the bladder is the oldest known to us, although numerous modifications have been made since the hap-hazard "cut on the gripe" for stone was first done. For the removal of stone, litholopaxy undoubtedly stands pre-eminent, and can be done upon subjects from three years of age upward; yet there are numerous restrictions to this method, such as stricture of the urethra, large-sized stone, an enormous prostate, etc. There can be no question, when cutting has to be done, that the medio-bilateral method presents the best advantages.

Two Cases of Tubal Pregnancy.—Dr. Edwin Walker, of Evansville, Ind. The first case, Mrs. E. S——, aged twenty-seven, married four years; sterile. She had a history of uterine and tubal trouble before marriage. Since marriage she had been an invalid, suffering pain in the right groin. Menses always irregular, often missed a month or two. Was unwell June 20, 1890, but in July missed her menses. A few days later she began to suffer severe pain in the right groin. August 1st, sanguineous flow began and continued to time of operation. An examination under ether revealed a soft tumor the size of the fist to the right and behind the uterus. August 17th, abdomen was opened and the right tube, which was very large, found ruptured and large amount of clotted blood in the pelvis; fœtus not found; abdomen irrigated with hot water; glass drainage-tube used. Some vomiting and pain, but recovery ensued without a bad symptom. Drain removed on the third day, and sutures on the twelfth day. Highest temperature was 101.1° F. The author thinks that the present status of the question is, that with such a class of symptoms as presented in this and other cases, laparotomy is the safest procedure to adopt.

Resume of Experience to Date, all over the World, in the Various Operations of Cystitis from Prostatic Hypertrophy.—Dr. William T. Belfield, of Chicago, had collected 133 cases of operations upon the hypertrophied prostate, including 8 of his own, as follows: 41 by perineal incision, mortality, nine per cent.; 88 by suprapubic cystotomy, mortality, sixteen per cent.; 4 by combined perineal and supra-pubic incision, none fatal.

In 56 of these cases the essential facts before and after operation are furnished; they had been the subjects of cystitis and dependent upon the catheter for periods varying from one to ten years. In all the cystitis was cured; in 38 (two-thirds), voluntary urination was restored and continued during the time of observation, six months to two and a half years; in 18 this function was not recovered.

Fifteen of these 56 cases were complicated with stone; excluding these, since it might be objected that the cure resulted rather from the calculus extraction than from the prostatic operation, there remain 41 cases of uncomplicated prostate operation; of these, 32 (four-fifths) recovered the power of urination; in 9 this ability was not recovered.

Treatment of Organic Stricture of the Male Urethra.—Dr. Seaton Norman, of Evansville, Ind., said in the practice of urethral surgery the operator cannot be too emphatically impressed with the fact of the requisite tenderness and sensitiveness of the urethra, and the employment of the slightest amount of force in the introduction of an instrument should be regarded as a relic of barbaric surgery. When commencing the treatment by gradual dilatation, in sensitive patients, he always produces local anæsthesia by the injection of twenty to thirty minims of a four per cent. solution of hydrochlorate of cocaine. Relative to internal urethrotomy, he believes that when it is properly and thoroughly executed, and special care is exercised to maintain the patency of the canal until the wound is entirely healed, that recontraction is of rare occurrence.

The Application of Antiseptic Methods in Midwifery Practice.—Dr. L. S. McMurtry, of Louisville, Ky., in some impromptu remarks, said many medical practitioners can remember the time when they heard that the wards of certain hospitals were closed and undergoing renovation because puerperal fever had become epidemic in such institutions. The hospital to-day is the safest place in which a woman can be confined. A few years ago, led by Fordyce Barker, we were taught that puerperal fever was an entity, a distinct fever, dependent upon a separate materies morbi, just the same as malarial fever is an entity. To-day we know that puerperal fever so-called is a septic peritonitis, just the same as when a woman becomes infected after abdominal section, or after wounds of the peritoneum from any cause, or from infection of the endometrium and through the Fallopian tubes to the peritoneum. A woman after labor is a wounded woman. She has undergone certain physiological processes; she has received certain injuries in the process of labor which opened the lymphatic channels, by which she may have become infected from without. There is no such thing as a woman having a peritonitis unless she is infected from without. To prevent this infection the vagina must be sterilized, the bed surgically clean, the examining finger clean, the nurse clean, and the atmosphere as approximately aseptic as it is possible to make it.

Officers for 1891.—*President*, Dr. C. H. Hughes, of St. Louis, Mo.; *First Vice-President*, Dr. John H. Hollister, of Chicago, Ill.; *Second Vice-President*, Dr. S. S. Thorn, of Toledo, O.; *Secretary*, Dr. E. S. McKee, of Cincinnati, O.

Next place of meeting, St. Louis, Mo., third Wednesday in October, 1891.

Correspondence.

DERMATOLOGICAL INSTRUCTION IN AMERICA.

To the Editor of the Medical Record.

Sir: An editorial in your issue of the 18th inst., based on an address recently delivered before the American Dermatological Association, by Dr. Prince A. Morrow, does this college, and, I believe, many other medical colleges injustice. The author states that "there is no medical school in this country in which the study of diseases of the skin is obligatory; in none is a knowledge of this important branch of medicine required as a condition of graduation; the professor in this department is not allowed to interrogate students, and has no voice in deciding upon their qualifications for a degree."

Will he allow me to state that in the Albany Medical College the study of diseases of the skin has been obligatory for the past ten years, during which time a professorship of dermatology has existed in this college, and that a "knowledge of this important branch" *is* "required as a condition of graduation." The professor in this department holds regular examinations during and at the close of the term, and has a voice in deciding upon the qualifications of students for the degree of Doctor of Medicine.

Yours respectfully,

Willis G. Tucker, M.D.,
Registrar Albany Medical College.

October 27, 1890.

FOOT-AND-MOUTH DISEASE.

A Reply to Dr. Stickler.

To the Editor of the Medical Record.

Sir: I am obliged to Dr. Stickler for calling my attention to the Medical Record for December 10, 1887, containing the report of the Meeting of the Academy of Medicine, which I now read for the first time. I can now see how Dr. Stickler has been misled, but it is not

so easy to see why he refuses to accept my unqualified denial that I ever said that foot-and-mouth disease "had at different times attacked nearly all the people of Europe." As the case now stands, it is not a question of veracity affecting Dr. Stickler or myself; it is simply a question of whether a reporter has made a mistake in condensing the remarks made at a public meeting on a subject with which he was unfamiliar. Dr. Stickler is entirely mistaken in supposing that the MEDICAL RECORD furnished a *verbatim* report of my remarks at the meeting; the reporter will not claim this. Dr. Stickler should therefore consider that it is not an uncommon experience that a reporter who undertakes to condense his notes on an unfamiliar topic runs some risk of misrepresenting the speaker. It does not by any means follow, however, that he will therefore misrepresent all speakers at the same meeting, as Dr. Stickler asserts.

To clear up the matter, however, I beg to submit the subjoined letter from Dr. L. McLean, of Brooklyn, who spoke to the point in question at the meeting of the Academy, and who would therefore recall, even better than others, whether the position he took was contested by me. He says:

"DEAR SIR: Yours of October 18th duly received, wherein you state that Dr. Stickler charges you with having said, at a meeting of the Academy of Medicine (where he read a paper on foot-and-mouth disease), that said disease had at times attacked nearly all the people of Europe. Dr. Stickler, in his paper, referred to this disease as being epidemic in Europe. I at once took exception to the term epidemic, and denied that it had ever so appeared, or in any other form but as an epizootic, and that one attack in the bovine tribe did not confer immunity from a second attack, but did, in reality, predispose it to a second attack, and that I had frequently known one animal to have three attacks within twelve months. With this opinion you perfectly agreed, and I do not believe that you, from your knowledge of this disease, could express the opinion above referred to. Yours truly,

"L. MCLEAN."

I quote Dr. McLean because, like myself, he has had an extensive experience with this disease in Europe, and because, as the result of such intimate acquaintance with the malady, he felt called upon to promptly contradict the allegation of its epidemic prevalence. Had I afterward at that meeting claimed such epidemic prevalence, his protest would have been made even more promptly and earnestly.

I can easily pardon Dr. Stickler for his blunder, but it is hard to understand why he should persist in that blunder in the face of my pointed denial that I ever expressed myself in terms that would have shown the grossest ignorance of a subject which it has been the work of my life to teach.

Respectfully,

JAMES LAW.

CORNELL UNIVERSITY, ITHACA, N. Y.,
October 29, 1890.

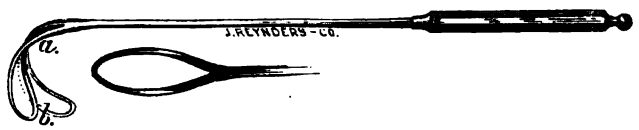
New Instruments.

A CURETTE FOR THE REMOVAL OF ADENOID VEGETATIONS.

BY EDGAR HOLDEN, M.D.,

NEWARK, N. J.

THE very satisfactory results of treatment of adenoid vegetations in the vault of the pharynx, variously styled "hypertrophic posterior nasal pharyngitis;" "hypertrophy of the pharyngeal tonsil," etc., have naturally led to the invention of a great variety of instruments; and the very multitude of these suggests the probability that the one adapted to the majority of cases has not yet been found. The admirable chapter on this subject in Bosworth's recent work "Diseases of the Nose and Throat," describes perhaps all the instruments thus far presented; yet reflecting that after all the general tendency is to give preference to the rather crude method of removing the vegetations with the finger nail, or the finger curette of Capart of Brussels, it may be of interest to state that a very simple and efficient instrument, designed as a substitute for these, has been made for me by Reynders & Co., a drawing of which is herewith submitted. It is a flexible curette, shaped at the tip like the finger-nail, which by its elasticity adapts itself to the pharyngeal vault and can be rapidly used even on a rebellious child, without the aid of an anæsthetic. That this has been in my experience



applicable to the majority of cases, especially of the fimbriated and cushion-like varieties, is my excuse for calling attention to it. It may be superfluous to say that there are exceptional instances where Major's adenotome as modified by Delavan, the cautery loop, or the forceps of Lowenberg or Hooper, may be necessary, but for office use, this simple device has saved much time and annoyance.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 26 to November 1, 1890.

CONWAY, STEVENS G., Surgeon. Granted leave of absence for one month, with permission to apply for an extension of fifteen days, to take effect upon the arrival of Acting Assistant Surgeon A. P. Frick, at Fort Marcy. S. O. 112, par. 2, Department of Arizona, Los Angeles, Cal., October 24, 1890.

EWING, CHARLES B., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 131, September 22, 1890, Department of the Missouri, is extended fourteen days. S. O. 250, A. G. O., October 25, 1890.

EDIE, GUY L., Captain and Assistant Surgeon, Fort Douglas, Utah. Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 80, Headquarters Department of the Platte, Omaha, Neb., October 27, 1890.

WOODRUFF, CHARLES E., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, relieved from duty at Fort Gibson, Cal., and will report in person to the commanding officer at Fort Missoula, Mont., for duty at that post, relieving Major Calvin De Witt, Surgeon. S. O. 249, par. 6, A. G. O., Washington, D. C., October 24, 1890.

DE WITT, CALVIN, Major and Surgeon. By direction of the Secretary of War, on being relieved by First Lieutenant Woodruff, will report in person to the commanding officer at Fort Hancock, Tex., for duty at that post. S. O. 249, par. 6, A. G. O., Washington, D. C., October 24, 1890.

WALES, PHILIP G., First Lieutenant and Assistant Surgeon. Relieved from station and further duty at Fort Huachuca, Ariz. Ter., and assigned to duty at San Carlos, Ariz. Ter., where he is now temporarily serving. S. O. 254, par. 13, A. G. O., Washington, D. C., October 30, 1890.

JARVIS, NATHAN S., First Lieutenant and Assistant Surgeon. So much of par. 2, S. O. 208, A. G. O., September 5, 1890, as directs him to report for duty at San Carlos, Arizona Ter., is revoked. On the expiration of his present sick leave of absence Lieutenant Jarvis will

report in person to the commanding officer at Fort Bayard, N. M., for duty at that station. S. O. 254, par. 13, A. G. O., Washington, D. C., October 30, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 1, 1890.

STEPHENSON, F. B., Surgeon. Detached from Receiving-ship Wabash, and wait orders.

MARTIN, H. M., Surgeon. Ordered to the Receiving-ship Wabash.

STONE, LEWIS H., Assistant Surgeon. Ordered to the Pinta.

ARNOLD, WILLIAM F., Assistant Surgeon. Detached from the Pinta, and granted two months' leave.

OWENS, THOMAS, Surgeon. Detached from the Coast Survey steamer Blake, and wait orders.

BLACKWOOD, N. J., Assistant Surgeon. Ordered to the Receiving-ship Vermont.

BOGERT, E. S., Assistant Surgeon. Detached from the Receiving-ship Vermont, and ordered to the Coast Survey steamer Blake.

MOORE, A. M., Surgeon. Detached from the Kearsarge, and ordered to the Naval Hospital, Mare Island, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 1, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	30	11
Scarlet fever	53	3
Cerebro-spinal meningitis	2	1
Measles	108	7
Diphtheria	57	22
Small-pox	0	0
Varicella	5	0
Pertussis	1	0

The Establishment of State Insane Asylum Districts.—In accordance with the provisions of section 1 of chapter 126 of the Laws of 1890, the following division of the State into State Insane Asylum Districts was made and ordered to take effect October 1, 1890: Utica State Hospital District—Counties of Albany, Fulton, Hamilton, Herkimer, Madison, Montgomery, Oneida, Saratoga, Schenectady, containing 1,476 insane patients. Willard State Hospital District—Counties of Alleghany, Cayuga, Chemung, Livingston, Ontario, Schuyler, Seneca, Steuben, Tompkins, Wayne, Yates, containing 1,024 insane patients. Hudson River State Hospital District—Counties of Columbia, Dutchess, Putnam, Rensselaer, Washington, Westchester, containing 1,159 insane patients. Middletown State Hospital District—Counties of Orange, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster, containing 988 insane patients. Buffalo State Hospital District—Counties of Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming, containing 1,148 insane patients. Binghamton State Hospital District—Counties of Broome, Chenango, Cortland, Delaware, Greene, Otsego, Schoharie, Tioga, containing 548 insane patients. St. Lawrence State Hospital District—Counties of Clinton, Essex, Franklin, Jefferson, Lewis, Onondaga, Oswego, St. Lawrence, Warren, containing 964 insane patients. The number of public insane patients in each of the above-named districts is given as it exists at this date.

At a Special Session of the State Commission in Lunacy, held at the Capitol, in the City of Albany, on the second day of September, 1890: It appearing that large numbers of the insane poor are deprived of the benefits of the intended care and treatment which the State Hospitals were instituted to provide for them; that much space at these institutions, originally provided for the accommodation of that class, is now occupied by private patients; that the law known as the State Care act reaffirms the policy of the State and declares the insane poor to be the wards of the State, and provides for the removal as rapidly as possible of those now remaining in the county poor-houses to the State Hospitals; therefore, be it ordered: 1. That on and after October 1, 1890, no private patient at any State Hospital be permitted to occupy more than one room for his or her personal use or behoof, or to command the exclusive services of an attendant; and, thereafter, there shall be no distinction allowed between private and public patients in respect to the scale of care and accommodations furnished them. 2. That on and after October 1, 1890, no private patient be admitted to any State Hospital, except in strict accordance with the statutes, as follows: "Whenever there are vacancies in the asylum" (State Hospital), there may be received "such recent cases as may seek admission under peculiarly afflictive circumstances, or which in his (the Superintendent's) opinion promise speedy recovery," and upon an order granted by the State Commission in Lunacy upon an application in writing, addressed to the Commission, of a near relative, guardian, or committee of the patient. 3. That this order shall not be held, except in special cases, to require the removal of private patients in custody in said hospitals on October 1, 1890. Also, the Commission having before it estimates and special reports from the Superintendents of the several State Hospitals and other interested persons concerning the charge to be made to counties of the State for the care and maintenance of insane patients in the said hospitals, and said Commission being required by statute to establish a charge for maintenance, which shall be the same for all the counties of the State; it is ordered: 1. There shall be charged for each patient in continuous custody under the commitment, or order, by which he is held, as follows: (*a*) For the first three years or less, the sum of four dollars and twenty-five cents per week; (*b*) for any period of time exceeding three years, the sum of two dollars and fifty cents per week. 2. The charge hereby established shall include food, clothing, breakage, and all other charges of any name or nature, and no greater charge shall be made under any circumstances whatsoever. 3. This order shall be in full force and effect on and after October 1, 1890, and shall apply to all patients in custody on that date.

Ill-health, according to the always cheerful Sir John Lubbock, is no excuse for moroseness. If we have one disease, we may at least congratulate ourselves that we are escaping all the rest. Sydney Smith, ever ready to look on the bright side of things, once, when borne down by suffering, wrote to a friend that he had gout, asthma, and seven other maladies, but was "otherwise very well," and many of the greatest invalids have borne their sufferings with cheerfulness and good spirits.

A New Way of Abusing Medical Charity.—The celebrated surgeon, Professor Billroth, of Vienna, was asked to perform an operation upon a Russian Jew, and he agreed to do it for a fee of two hundred and fifty guineas. On making the journey to the small town in which his patient lived, he was informed that the Jew had suddenly died. However, in order that he should not suffer loss by the transaction, the professor was asked whether he would treat five hospital patients for a fee of fifty guineas each. He accepted the offer, and did the work; and just as he was starting homeward he ascertained that one of the five patients upon whom he had operated was the Jew who was reported to have died.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 20. Whole No. 1045. NEW YORK, NOVEMBER 15, 1890. $5.00 Per Annum. Single Copies, 10c.

Original Articles.

THE AMERICANS AND THE TENTH INTERNATIONAL CONGRESS.[1]

BY A. JACOBI, M.D.,

NEW YORK.

ON August 4, 1890, during the first, and largest, general meeting of the Tenth International Congress, there were three universal and spontaneous outbursts of applause. The first and most sympathetic greeted the name of James Paget, and never was there an ovation more deserved. The second rang through the immense building when it was announced that the government of the French Republic had sent thirty-four official delegates, and that nearly one hundred and fifty more Frenchmen had joined the Congress. They had overcome political enmity and jealousy, disregarded a rather slighting reference to their "national insanity" of twenty years ago, and came with open hearts and friendly feelings, a large number of them men of fame and high rank. The third greeted the announcement of the fact that on the first day of the gathering, more than six hundred Americans were inscribed on the rolls. This recognition afforded to our name must have flattered the national pride of everyone of us who was present.

This hearty welcome was more than I had mustered the courage to expect. For, indeed, Americans visiting Europe on such occasions as this labor under certain difficulties. Europeans do not quite understand our country, its political and social configuration or its scientific attainments. If that be so even in Great Britain, both race and language being identical and mutual intercourse more frequent, how much less can we expect it to be known on the Continent. Besides, it is not always the best political, social, and scientific class of our fellow-citizens who travel extensively, and though it be not the crowd of the "profanum vulgus" that ought to tell in the estimation of the best spirit of their country, it does so tell. Now, the majority of medical Americans they know in Europe, and particularly in Germany, belong to one of two classes: either they are *bona fide* students, whom, being mere foreigners, they consent to matriculate even without the preliminary education rigorously insisted upon in their own young countrymen, or they are our young doctors who pass a few months or a year in European laboratories and clinics for the sake of special studies. It is these latter that are also the occasional participants in their national associations, where, nobody else being present, they are naturally considered the representatives of American medicine. Our best men travel little and talk less. Indeed, some of those who were most fit to represent us in the Congress kept in the rear, modest and retiring. Besides, the great opportunity America might have had to present to the view of the world whatever there is great and progressive in American medicine appears lost. For in the very number of the *German Medical Weekly* which was published in the week of the Congress you could, in the history of previous congresses, read the statement that the Washington Congress was unfortunately a failure, for which all of us, being Americans, are held responsible. Moreover, though English is read by a great many of the best men in Europe, the knowledge of our language is not so general as to insure a wide acquaintance with our literature through anything but the uncertain channels of extracts or translations. Nor are even these well selected. We are all aware that our medical journals are of as unequal rank as our schools, and not infrequently will you find a journal which is deservedly unknown among us quoted in Europe under the impression that it is a fair representative of American medical literature. Nor is the treatment Europeans receive at our hands always very courteous or considerate. The editorial remarks of a great New York weekly were quoted as unkind, inasmuch as the efforts to make the Congress international and Berlin a neutral ground for the whole world, did not appear to be appreciated by us. It must be admitted, though, they did not deem that Western journal worthy of serious consideration which spoke of the Tenth International Congress as a congress of snobs, and advised everyone of the forty thousand practitioners of the Mississippi Valley, "everyone superior to the leaders of the Congress," to stay at home.

Public opinion is often made or unmade by trivialities; sometimes, indeed, by personalities of an inferior nature. It was a source of complaint in Berlin that an American who had been honored with the request to represent our country by delivering one of the great addresses had neglected to see to it that his refusal reached the Committee of Organization in anything like due time. The proverbial courtesy of Americans was found wanting, and that at a time of feverish excitement and overwork. Such occasions are the very opportunities for those formerly Europeans who manage to rise, in their own estimation, and that of their former countrymen, by detraction of us. For there are those who do not immediately succeed, when they, our guests and future fellow-citizens, arrive among us, in impressing us with their superiority, or in being appreciated by us as they are by themselves, or in obtaining at once a lucrative practice and professional positions and honors. It is they who pay for the hospitality proffered by our country, with shoulder-shrugging insinuations and pitying remarks upon our crudeness and inferiority, our "mob rule," our "civilized barbarism," instead of aiding in the realizations of the national and cosmopolitan aims of the medical profession and science.

Nothing is so small as not to have some effect. Unfortunately, there is still so much national jealousy everywhere that faults and shortcomings in your neighbor beyond the boundary line are easily believed in, and slanderers and libellers are always busy. When I arrived in Germany, a newspaper article was shown me which was concocted by a sectarian practitioner formerly in New York, who detailed the inferiority of American medicine, schools, and practice to the horrified sanctity of the German public; and in the very week preceding the Congress, hundreds, or perhaps thousands, of pamphlets were distributed in Berlin, for the avowed purpose of insulting us and making us uncomfortable. The pseudonymous author, who appears to have lived, or lives, in Chicago, says, among a great many other things, the following:

"In reference to the transatlantic gentlemen, nothing is more out of place than indulgence. American tolerance, so frequently extolled, exists for Americans only. When about to travel they leave it at home. It is almost always the result of ignorance, indifference, and bad conscience. As the average American never cares for the history of a science, the majority of the

[1] Being an introduction to special reports of Delegates to the Congress before the New York Academy of Medicine, November 6, 1890.

transatlantic members of the International Congress are totally unacquainted with European institutions, labors, and scientific methods and their aims. Nevertheless, everyone of these gentlemen carries a paper in his pocket, easily compiled, wherewith to resuscitate the obsolete science of Europe."

In the same sheet the man asserts that forty-two per cent. of all the doctors in Chicago are professed abortionists and a great many followers of "Christian Science."

Some of the great Germans, with whose names everyone of us is perfectly familiar, denied being in any way influenced by such rubbish; but then, again, it was through them that I was informed of a New York specialist, and a fellow of this Academy, who was reported to have availed himself of his personal intimacy with the officers of the Associated Press for the purpose of having his Congress paper served at the breakfast-tables of a million of American households on the day of its delivery. That was a week before the opening.

Thus, you see, Mr. President, American medical gentlemen may meet with difficulties in the face of such occurrences. Still, though they are as human on the other side of the Atlantic as we on this, the facilities of communication between the continents have become such as to enable those wishing to see and know the truth that the time when American medicine was merely receptive and imitative has long passed by, and that we have entered the arena as co-operating peers. They were, indeed, anxious to have us and secure a large American attendance. In order to accomplish that end the organizing committee appointed an American committee, which was to enlist universal sympathy in our country. No time was to be lost, and the first ten medical men who expressed their willingness to serve were appointed. The territorial jealousy, one of the most marked American littlenesses, which found its way into print several times, has obliged me to explain publicly, in the May meeting of the Association of American Physicians, why that committee consisted of Stewart, Fitz, Lusk, Draper, Hun, Pepper, Busey, Osler, and Peyre Porcher. Will the Western gentlemen who found fault with the committee, and heaped vituperation on the mode of its composition, tell us that the names selected did not deserve the honor conferred upon them, or that there are better ones among us? Does American medicine begin at the Alleghanies or the Sierra? Or will you, gentlemen of Ohio, Mississippi, or Nevada, tell us which of the forty-four stars of the glorious flag is the one you claim as yours? Yours are the forty-four, so they are ours. Are your minds not big enough, your hearts not large enough to embrace the love of, and the pride in, the whole flag of America?

A further proof of the anxiety to secure the co-operation and good-will of the Americans was given by the Berlin committee in this, that they insisted upon one of the public addresses in the general meetings being delivered by an American. Weir Mitchell having declined in time and courteously, and Osler not being within reach, I was telegraphically directed to select an orator. The choice of Horatio C. Wood was heartily approved of in Berlin and elsewhere. Again, a few have asked why a New Yorker could not have been honored with that commission? That question is answered by some other queries: Do you know of a better man? Is America bounded by the East and North Rivers? And lastly, has New York forgotten that she can afford to be courteous and generous?

More, a few weeks only before the meeting of the Congress the American orthopedists expressed the desire that there should be a separate section of orthopedics. When I, then already in Europe, was notified of that request by the Chairman of the Orthopedic Section of this Academy, and expressed my fear lest it might be too late to make arrangements for that change, I was by returning mail informed by the Secretary-General that the request was at once granted by the Committee of Organization, on the ground that my countrymen must know best what suited them and their scientific labors.

Again, the organization of the Congress was not completed without the election of an American vice-president, John S. Billings, and an American, M. Allen Starr, as one of the two English-speaking secretaries, and a large number of American vice-presidents of sections. And lastly, when, on the third day of Congress and in the second general meeting, the hour grew late and the audience melted under the hot sun, Dr. Wood's address was, out of consideration for the Americans, postponed to be the first topic of the third meeting, though the hour and arrangements and printed preparations had to be changed accordingly.

All this was meant, and was believed to suffice, to make every American feel at home. If it did not succeed, it ought to have accomplished that end. But I have been told that disappointments have been keenly felt and complaints been uttered.

When an English paper was read, many have been reported to have left the room. Many essays were not read at all, some were not allowed the time required by the authors, some men would read beyond the legal limits. Such comments are natural, but also their causes. The unprecedented number of papers offered at a late date, and too courteously accepted, and some acoustic disadvantages of many of the audience halls, are among the causes of disappointments, which are unavoidable in everything human. The experience of the past can furnish remedies in the future. However, when one man complains that he was not one among the five per cent. of members who could be admitted to the court reception in Potsdam; another, that he had to pay for his share of the section dinner on the evening of Wednesday, the 6th, proclaiming that matters were different in Washington, where no foreigner paid anything; it proves one of two things, either that there were those who went more for the incidental appurtenances of the Congress than the Congress, or that our national failing, which is a highly developed emotional hyperæsthesia, was rather demonstrative. I can assure those who are finding fault with the scantiness of their enjoyments that I know of one at least who neither shared in the entertainment in the City Hall, for which Berlin paid 80,000 marks, nor danced at any of the five balls, nor imbibed the music and songs in eleven languages, and as many beverages, at Kroll's, and—did not feel the worse for it the following mornings. If I have any fault to find, it is with the overflow of entertainments, the excess of generosity, the multiplicity of luncheons, dinners, and receptions, the waste of money in the vast number of public and private social gatherings.

If there ever were hosts spending unstintingly—aye, squandering—money in the service of unlimited hospitality they were the profession as a whole, and the single medical men of Berlin.

In connection with this fact let me make a remark, which is dictated by no cavilling spirit, that I have too many reasons to appreciate the universal kindness and untiring hospitality of the great and gentlemanly members of the Berlin profession, who were bent on nothing so much as rendering the sojourn of the foreign guests comfortable and pleasant. I must here mention the names of Virchow, Bergman, Waldeyer, Gerhardt, Henoch, Martin, and Leyden, and his accomplished wife, the Chairman of the Ladies' Committee, and could name a host of others. Many of us have found it impossible to respond at the same time to the requirements of actual congressional duties and the urgent demands of hospitable courtesy. In this, also, there is discomfort and loss for the individual member. But the matter has a very much more important aspect. An excess of social entertainments on one hand, and the accomplishment of the end for which the International Congress is convened on the other, are incompatible at a certain point. Too many feasts interfere with legitimate work. The expectation of a good

time may—if I must not say it does—invite the attendance of many, of hundreds, perhaps of thousands, who would not go for the sake of work. On the other hand, those who have gone for the latter are liable to feel sorely disconcerted. Thus it has happened—at least this disappointment can be held in part responsible—that the national associations have suffered from the persistent absence of those who do not wish to lose great opportunities; and that all over America, Great Britain, France, Germany, and other countries there have been formed by dissatisfied men, who place scientific work over any distractions, be they ever so pleasant, special societies, the objects of all of which ought to have been accomplished in the sections of the general bodies. It would be a sad development if the same tendency were to grow up in international congresses. This very moment, there are already in existence an international ophthalmological and an otological congress. It would be the fault of the management of international medical congresses, if other specialities, or doctrines, should follow the example, for no other reason than the predominance of the social over the scientific element. If the latter cease to rule the great men of science will stay away, and the holiday-seekers and a few ambitious office-holders will remain. *Experientia docet.*

It is only a wealthy city and rich professional men who can entertain as Berlin did. For such hospitality as was displayed there you require large and generous hearts, ample and well-filled purses. There are but few communities like her. If the habit of prodigality becomes persistent we shall be received in future with misgivings on the part of our hosts, who must fear lest their efforts fall short both of the results of predecessors and the expectations of the guests. Let these two calamities occur—viz., the absence of the best men of all nations, and on the part of cities and men hesitation to request our coming—what will become of the International Congresses?

And where is the prevention of the danger alluded to? Here: Let the social entertainments be reduced to a minimum. Then any city with ample hotel accommodations will be able to receive us, though we be thousands. Then those bent upon pleasure only will seek it elsewhere. Then the numbers will no longer be unwieldy and shapeless. Then the men looking for work, and for the men who work, will be eager to come and see and be seen, to teach and to be taught.

The unprecedented success of the American Congress of Physicians and Surgeons, the first meeting of which was held in Washington, in September, 1888, tells its own tale and exhibits the proof of what I say. In my mind there is no doubt that its second meeting, in September, 1891, will be equally successful; its three days will be dedicated to work, and the official social entertainment limited to a plain subscription banquet. In that way neither the lawful work of the Congress nor private intercourse and hospitality are interfered with.

It may appear invidious to mention the co-operative services rendered by the members of the different nations represented in the various sections of the Congress. Still as we generally have a good opinion of ourselves, we are not afraid of looking back at our own contributions to the scientific material that was furnished. When we do so we have to admit, however, that but a small percentage of our seven hundred participated in the general work. It is true there was one who got himself delivered of quintuplets; fortunately, he had no equals, and he was not, as a medical journal reported, "taken in earnest." Still, there were a number of papers, not compiled, but original. The Orthopedic Section was American to a great extent. The Neurological had a very fair representation from our country. The Gynecological and Pediatric Sections were not without American contributions. The Surgical was supplied with papers which were highly appreciated, mostly from the West. Indeed, there were but few sections in which no American took part, though there were some in which no active work at all was furnished by us. The most redeeming feature was the meeting of the combined Laryngological and Pediatric Sections, in which the ingenuous, painstaking, and successful efforts of O'Dwyer were heartily applauded.

After all, however, the labor performed in the general sessions may be the principal, but is certainly not the only, object in view. An English journal has said that "congresses are not instruments of research;" and still, the transactions of all are replete with it. It is true a congress is not so much meant for new discoveries as for the broad dissemination of facts, hints, and ideas. A man—not being ubiquitous—may not take away with him many things new, but what he carries home is a new stimulus and encouragement.

In the Congress you saw a great many men whom you thought you knew, but since you listened to them and watched them while you listened and took their measure, you know better now. You saw and heard the living objects of your admiration, the moulders of professional thought in all countries; discoverers, teachers, laboratory workers, practitioners; those who, after hard work, create books by spontaneous generation out of their brains, and those who compile them uot of their pigeon-holes; the eagles, the bees, and the moles—also the parrots, and that class of envious cuckoos who transfer other birds' eggs into their own nests. You found there is room in our great army for many men and many classes of men. You gathered encouragement from learning that even truly great men are still men and human; and that some degree of greatness is within the grasp of any man, in town or village, who will work for it intelligently, bravely, and honorably. All this is what a congress will teach those who consent to learn.

There is another lesson that is taught by a congress: The separation into twenty sections proves the endless and diversified branching of the grand old tree of medical science. Their working under the same roof, however, and under the same administration; their occasional combination for a common purpose; their gathering in general meetings, and their listening to the same addresses, with the same interest and profit—all this, in spite of the fact that some of the twenty appear to be threatened with the danger of degenerating into mere handicraft, proclaim louder than steeple bells that medical science is "one and indivisible, now and forever."

The Congress has conveyed to me, like its predecessors in Copenhagen and London, a great lesson, and furnished an elevating spectacle. Imagine, those of you who have not been present, thousands of medical men from all parts of the world, and speaking a dozen different languages, not perhaps endowed with the same erudition or mental or moral power, but moved by the same instincts and interests, and assembling at the same call and for the same special purpose. The great and the lowly, the old and young meet as brethren on the same platform, if not of equality, still of fraternity and solidarity. National jealousy and prejudice are shelved for at least a week, and the lesson is taught that brethren may live together peacably under the same roof, an example to the nations both of the present and the future. The man and the man of science are appreciated and loved, though political adversaries. Applause takes the place of hisses. The contest is no longer against each other but with each other, side by side, arm in arm, with the same weapons of the brain and soul against the common enemy of science and mankind, viz., physical deterioration and social misery. Thus the cosmopolitan spirit of coming centuries is foreshadowed and initiated by the co-operation of the men arrayed in the army of the noblest of all sciences and professions. Therefore, may no man who can prove an example to his peers in this or any other country, no man who can teach, none who can learn, none who can worthily represent his country in any capacity and do honor to America among foreigners—may no man, except for valid reasons, ever shirk his duty to attend an International Medical Congress.

THE SURGICAL TREATMENT OF TUBERCULAR LARYNGITIS.

By D. BRYSON DELAVAN, M.D.,

PROFESSOR OF LARYNGOLOGY IN THE NEW YORK POLYCLINIC.

THE proposition that severe tubercular disease of the larynx be treated by surgical, rather than by therapeutical, measures, is so radical and so at variance with long-established usage with us, as hardly to pass unchallenged, if indeed it fail to meet with active opposition. Until recently we have been taught:

1. That in tubercular laryngitis none but the mildest and least irritating measures should be employed. 2. That in certain exceptional cases such treatment may result in cure of the laryngeal symptoms; or even that a cure may in some rare instances be spontaneous. 3. That after a certain stage in the progress of the disease the only possible means of controlling its painful symptoms is by the employment of anodynes and sedatives.

These principles, as a rule, have been accepted, and it has been conceded that genuine tubercular laryngitis, in its more severe manifestations, is a disease incurable itself, and certain, sooner or later, to be attended with great suffering to the patient.

In the light of recent investigations, however, it appears that our views, regarding several important details in the pathology and treatment of tubercular laryngitis, should be carefully revised, if not largely modified. For, be it remembered, that since the time when mild topical treatment, pencilling with nitrate of silver, and applications to the tuberculous ulcers of iodoform were first suggested, great advances have been made in our knowledge of the true character of tubercular disease in general, and in its successful management in other parts of the body. The presence of a specific germ has been demonstrated; the value of the surgical treatment of tuberculous joints and surfaces has been abundantly proved; and the successful results of these ideas have clearly suggested their adoption in the treatment of parts of the body to which they have not hitherto been applied. In short, the theory of the modern surgical treatment of tubercular laryngitis is based upon the broad general principles which govern us in the management of all tubercular disease.

This then, theoretically, is a distinct advance upon the methods in former use, under which, in genuine cases, the results as regards the larynx were almost invariably unfavorable.

It must be understood from the outset that we recognize two distinct forms of ulcer which may be associated with phthisis: 1, The catarrhal form, which under proper treatment may usually be healed; and 2, the true tubercular infiltration and ulceration, which, as a rule, runs a steadily unfavorable course, and which is not amenable to the ordinary means of cure.

Reference is not made in this paper to cases of the first class, *i.e.*, catarrhal ulceration of the larynx complicating phthisis, many of which have been known to recover, but to the typical tubercular disease, tending to severe œdema, quickly breaking down into ulceration and running through the various well-known stages of that most distressing affection, and which, by a general consensus of authority, is practically incurable. It is to the treatment of this latter form of disease that I would call attention, and beg consideration of the latest means suggested for its relief.

In this country the surgical treatment of tubercular laryngitis has seemed to meet with an indifferent reception, and to have made unsatisfactory progress. Heryng's method has been tried by several of our specialists, and not without success, as is proved by the admirable case presented by Professor Gleitsmann, of New York, at the Berlin Congress, the patient being a woman whose larynx has remained healthy for now two years after treatment. Little has been said here about the method, however, while Krause's method, we believe, has been practically untried. It has seemed important, therefore, to present the subject prominently, and to urge that it be not allowed to pass unnoticed or to be dismissed upon theoretical objections, but that its principles be carefully studied, its application thoroughly tested, and its virtues, if virtues it be proved to have, verified and accepted. Thanks to the efforts and investigations of Professor Hermann Krause, of Berlin, and of Dr. Theodor Heryng, of Warsaw, we are now able to consider the question not as an untried theory, but in the light of improved methods, an ever-increasing mass of statistics, and the testimony of numerous unprejudiced witnesses.

The surgical treatment of tubercular laryngitis properly includes two varieties of operation: 1, The extrinsic, including tracheotomy, as suggested by Professor Beverley Robinson, of New York, and extirpation of the larynx; and 2, the intrinsic, or operations upon the soft parts of the interior of the larynx.

With the consideration of the first variety, this paper has nothing whatever to do. Tracheotomy can be nothing more than palliative, while laryngectomy is, with our present knowledge of the operation and its bad results, too radical to challenge serious attention.

It is with the second, then, that we have exclusively to deal, namely, with intralaryngeal operations upon the soft tissues of the larynx. Of these, again, there are four varieties: 1. Incision of the œdematous tissue, after the manner of Moritz Schmidt and others. 2. Heryng's method, by the subcutaneous injection of lactic acid into the soft tissues of the larynx when in a state of œdema. 3. Scraping of the laryngeal ulcer, as practised by Dr. Heryng. 4. Actual excision of the œdematous tissue, together with scraping of the ulcers, as recommended by Professor Krause.

The first method, incision of the œdematous tissue, has not met with general approval, both on theoretical and on practical grounds. The second is exceedingly painful, and, in the experience of the writer and others, has not yielded good results. We will confine ourselves therefore to the study of the third and fourth, premising that their employment is a secondary matter and adjuvant to a far more important element of treatment, namely, to the application of some agent which shall effectually destroy the last remnant of the tuberculous disease. Just as in other departments of surgery, both Professor Krause and Dr. Heryng work upon the theory that the diseased or infected tissue should first be as thoroughly as possible removed or scraped away, and the underlying parts then treated in such a manner that there can be no possibility of bacilli being left behind. For this purpose various agents have been used, such as menthol, iodoform, iodol, soziodol, pyoktanin, and others, with indifferent results. It is to Professor Krause, mainly, that we owe our knowledge of the value of lactic acid in these cases. He has found that this chemical, properly diluted and thoroughly applied to the diseased tissue, produces effects not to be attained by any other known agent, and that by its use brilliant results, considering the nature of the disease, may be gained. Dr. Heryng has also used the lactic acid treatment, applying it by first scraping a tuberculous ulcer with one of a series of small curettes which he has devised for the purpose, and then rubbing the acid well into the surface thus abraded.[1]

Professor Krause, on the other hand, uses one or more of a set of double sharp spoon instruments, which he has made for the especial object of cutting away any portions of diseased tissue which in his judgment may require removal, applying, after the operation, the lactic acid to the denuded part. Like Heryng, he is also in the habit of scraping tuberculous ulcers.

To explain these operations more in detail, the larynx

[1] Dr. Heryng exhibited at Berlin a case operated upon by his method in 1888 and cured. Excellent photographs of the larynx of his patient were taken by Dr. T. R. French, and exhibited with the reading of his paper.

is first anæsthetized by means of cocaine. In Dr. Heryng's operation the surface of one or more ulcers is then thoroughly scraped with the sharp curette, and, bleeding having ceased, the lactic acid is applied. In Professor Krause's operation one of his double instruments, with sharp spoon extremities, is introduced into the anæsthetized larynx, and the operation completed by the forcible closing of the blades of the instrument upon the selected tissue, and its subsequent removal. Professor Krause does not confine himself to the ulcers, but removes bodily the œdematous tissue as well, operating, if necessary, upon cases in which ulceration has not yet developed, and eradicating, as far as possible, all of the diseased tissue within reach. For the completion of the operation several sittings may be required.

The method of applying the lactic acid must be thoroughly understood. Indeed, the failure to obtain good results from it, sometimes complained of, is said to be due to lack of energy in its application. It is not enough that the surface of the ulcer or of the wound should be merely painted with the acid. Krause insists that it must be applied so intimately as actually to be incorporated with the parts under treatment, and directs that the application be made by saturating a pledget of cotton, wound upon a probe, with the acid, and then forcibly rubbing the diseased surface with this, in order that the destruction of the bacilli may be assured.

The strength of the lactic acid solution must be varied to suit the given case. From twenty per cent. to fifty per cent. is usually well tolerated and is sufficient for the purpose. Indeed, Krause believes that the effect of the solutions mentioned above is as energetic as that of the pure acid, while decidedly less irritating in sensitive cases. Some patients, however, seem to suffer much more than others under it, and it may be necessary, in exceptional cases, to reduce the strength of the solution as low as ten per cent. As a rule, the acid is not as well tolerated by the larynx as it is by the pharynx. Careful rubbing of the acid into the surface of a laryngeal ulcer, dispensing with the scraping process, will in many cases give excellent results.

The effect of the lactic acid treatment is very different from that of the treatment by other agents in common use; for while under some of the latter the surface of the ulcer will become tolerably well cleaned and apparently healthy, under lactic acid not only does this occur, but there is. as well, a marked tendency to cicatrization, which is distinctly not observed in the case of the first-mentioned drugs.

A case in which remarkably good effects were obtained from lactic acid was reported by the writer at a meeting of the American Laryngological Association, held in May, 1886. The indications for Krause's operation are, ulceration or œdema of the larynx sufficient to cause, *a*, laryngeal stenosis; *b*, pain and difficulty in deglutition; *c*, irritative cough.

It is absolutely necessary to the success of the operation that the disease be quiescent, *i.e.*, that there be no perichondritis and no active inflammation of the surface present. The latter should be of the characteristic gray color, devoid of the redness which denotes recent congestion. When these precautions are disregarded there is danger that an inflammation more or less serious and widespread may be established. Indeed, the only instances in which Professor Krause has reported unfavorable results have been in cases in which the presence of active inflammation was not recognized and respected, and in which the extension of the inflammation called for measures of relief.

Where the case is far advanced and the symptoms are very severe, the treatment described is contra-indicated, sedative treatment alone being admissible.

In favorable cases, however, in which inflammation is not present, large masses of œdematous tissue may be removed, with most brilliant results in the relief of the dyspnœa, the cough, and the dysphagia.

The operation by Krause's method is somewhat painful, even under cocaine, and for two days after its performance the patient is liable to undergo considerable discomfort. This is particularly the case in swallowing. By way of after-treatment the patient should be kept as quiet as possible, speaking should be interdicted, unirritating food should be carefully administered, and any tendency to inflammatory reaction checked by the swallowing of cracked ice, and by cold applications to the throat over the region of the larynx. Rest in bed is sometimes desirable. In cases where there is any tendency to laryngeal stenosis following Krause's operation the writer would suggest that dyspnœa may be avoided by the employment of intubation, as the introduction of an O'Dwyer tube for a few hours would probably succeed in relieving the difficulty.

Under the influence of the lactic acid healing is generally rapid, and the resulting cicatrix remarkably healthy in appearance. The most striking feature of the case is the absolute disappearance of the œdema, the interior of the larynx losing its swollen, sodden look, and the various parts of the organ appearing as in health.

Professor Krause states that he has operated in over one hundred cases. In none of these has he had bad results where no active inflammatory process was present. He has had but few failures; that is, cases in which some measure of relief was not afforded. A large majority of his patients have been helped. In a considerable number the results have been brilliant. In several instances he has effected a cure. By the word "cure" it is not meant that the lungs were restored to health, but that the larynx was relieved permanently, during the life of the patient, of all of the symptoms complained of before the treatment was undertaken, the length of time varying from four years to six months. When it is remembered that in every instance these were cases which almost inevitably run a course alike unfavorable to the comfort and the prospect of life of the patient, it cannot be denied that, if the statements and arguments of the advocates of Krause's method be true, we have in it a measure far in advance of those now in use, and one likely to be of incalculable benefit under most trying circumstances.

As to the testimony which others have offered concerning the value of Krause's method, it must be admitted that a number of the best authorities, so called, have met it with vigorous opposition. I am not aware, however, that this disapproval has been based upon carefully conducted experiments impartially undertaken to test the real merit of the operation, but believe that in the main it has been offered on purely theoretical grounds.

Thus, it is objected that the operation is difficult, requiring unusual technical skill on the part of the operator; that its application is painful and its effects attended with considerable suffering; that, in consequence of this, patients will refuse to submit to more than one application of it; and, finally, that it is absurd to state that tubercular laryngitis can be cured when the general condition, of which it is but a local expression, is sure sooner or later to destroy the patient.

That the operation requires considerable skill is true. Still it is satisfactorily performed by the assistants at Professor Krause's clinic, and it should be entirely within the reach of any specialist who is fairly proficient in intralaryngeal work. The operation is, in some cases, undoubtedly painful, even although done under the influence of cocaine. The amount of pain caused by it does not, however, seem excessive, even in the more severe cases, while the suffering which follows it for several days may be greatly relieved by the use of the proper remedies and applications. The healing process is so rapid that the painful stage quickly passes away, the suffering incident to the operation being inconsiderable in comparison with the radical and permanent relief afforded.

The good effects of the operation are speedily experienced by the patients, in consequence of which they do not object to necessary repetitions of it, but continue in

regular attendance at the clinic as long as may be required.

It is not claimed that by this or by any other treatment directed to the larynx a cure of general tuberculosis can be effected. It is perfectly fair, however, in referring to the local condition, to call that case cured in which all trace of active disease has disappeared from the larynx and all active symptoms referable to that organ have passed away, particularly where there is no recurrence of the local trouble during the remainder of the patient's life.

On the other hand, both Professor Krause and Dr. Heryng have been earnestly studying this subject for over five years, and they have now a considerable array of records to substantiate their assertions. What is even more important, others have taken the matter in hand. At the last meeting of the British Medical Association Mr. Charters J. Symonds, Assistant Surgeon in Guy's Hospital, presented a valuable contribution on the subject in an article giving an excellent *résumé* of these methods, and reporting in favorable terms their results in his own hands; while other contributions of greater or less interest have been appearing of late in the foreign journals. Since this paper was written, the article of Mr. Symons has appeared in print (October number of the *Journal of Laryngology and Rhinology*), and it is a pleasure to record that his experience is highly corroborative of that of Professor Krause. My own experience in the treatment of tubercular laryngitis by Krause's method is confined to the scraping of tuberculous ulcers and the use of lactic acid, and to what I have witnessed at his clinic in Berlin. In company with several friends, among them Dr. Thomas R. French, of Brooklyn, the clinic was visited last summer, and we were carefully instructed in all matters pertaining to the operation. Three patients, in all, were exhibited. All were young men. In one, a case of phthisis second stage, the larynx, which had been operated upon several weeks before, was perfectly healed and apparently in a healthy condition. The second was a case in which the treatment was but partially carried out. The patient, although he had been operated upon at several former sittings, made no objection whatever to returning to the clinic and submitting again. Both of these men expressed themselves as having been greatly relieved. The third case was that of a man in whom the lung symptoms were somewhat advanced. There was extensive œdema of the arytenoids, the posterior commissure of the larynx, and the false vocal bands, with some swelling of the epiglottis. The patient suffered from cough, dyspnœa, and dysphagia. The whole posterior part of the larynx was cleared at one sitting, *i.e.*, the œdema of the arytenoids, and the posterior commissure was removed. The operation was followed by application of the lactic acid as already described. Three days later the patient reported, having suffered considerably meanwhile. It was astonishing, however, to find, upon examining him, that the part of the larynx operated upon was apparently healed, the cavity of the larynx was much larger, and the swelling of the neighboring tissues considerably diminished.

The most surprising feature presented by these cases was, as has been said before, the remarkably natural appearance of the interior of the larynx after healing had taken place. Instead of the misshapen, pyriform swellings at the posterior part of the larynx, the normal shape of that region was restored, the arytenoids appearing as sharply defined as in health. The cavity of the larynx was spacious, the excursion of the vocal bands in inspiration perfect, and all of the characteristic deformities incident to tubercular laryngitis wanting. The explanation of this, it seems to me, is in the fact that œdema of the larynx is really a sero-purulent infiltration which is not especially affected by simple incision. The removal of a large portion of the surface of such an infiltration, however, and the subsequent treatment of the exposed tissue with lactic acid, produces extensive destruction of the diseased elements and a speedy elimination of the contained morbid products by that which remains, the healing process being quickly accomplished and resulting in a cicatrix apparently free from disease.

Mr. Symonds, in following the views of Professor Krause, very aptly suggests that our objects in operating are: "1. To relieve the cough and dysphagia, and so to bring about improvement in the general health, enabling the patients to swallow. 2. To diminish the liability to pulmonary affection. 3. To produce a more rapid recovery in those cases disposed to a spontaneous cure, much as is done in cases of tubercular disease of joints."

All of these objects, he believes, seem to have been attained by one or more of the methods described in this paper; and he also maintains that the results of such treatment fully justify our recommending the local or surgical treatment of laryngeal tubercle on lines similar to those employed for the same disease in other parts of the body.

Again agreeing with Krause, Symonds holds that the cases most suitable for operation are: "1. Those in which there is no evidence of pulmonary disease. 2. Those in which there is severe dysphagia and cough, with existing, but not rapidly advancing, pulmonary disease. 3. Those in which the pulmonary disease is early or chronic, as in these the latter may improve."

All the conditions present in tubercular laryngitis are amenable to treatment, but those most suitable are the tubercular tumor, that is, the localized formation of a mass of granulation tissue; next, the ulcer into which the lactic acid can be rubbed; and lastly, the infiltration and œdema, which may be removed by the curette. No one will be inclined to operate on patients with advanced pulmonary disease when there is hectic and rapid emaciation. . . . . Granting the value of good hygienic surroundings which, of course, must not be lost sight of, for patients who cannot afford the luxury of a residence in the Adirondacks or in the South, where, no doubt, spontaneous recovery is greatly favored, much may be done even in unfavorable surroundings by local treatment. Speaking of the severe cases, Professor Krause says: "We must not despair even in these. I have observed cases in which, with all the unfavorable local and general symptoms, a careful and continuous local treatment was successful in curing the laryngeal disease. And I have seen others in which the disease was arrested, and, in comparison with the existing torments of hunger and inanition, a condition result which was at least bearable."

Symonds concludes that: "1. Tubercular disease of the larynx should be treated on the same lines as elsewhere, that is, by destroying it by an irritant, or removing it by erasion or curettement. 2. At present lactic acid is our best application. 3. Endo-laryngeal methods are sufficient to remove and treat the disease in a majority of cases."

Again, Luc (*Archives de Laryngologie, etc.*, August, 1890) points out that the considerations upon which the surgical treatment of tubercular laryngitis should be based are: *a*, the condition of the lungs and other organs; *b*, the precise stage of the laryngeal lesions; *c*, the personal character and social position of the patient.

He also believes that with proper hygienic care, and in suitably selected cases, good results can be obtained.

In the discussion which followed Symond's paper considerable difference of opinion prevailed. Those who objected did not appear to have put the question to decided practical test, while of those advocating it from the light of clinical experience, Mr. Lennox Browne gave it hearty support.

For myself, let it be distinctly understood that I make no claim with regard to the method, either for or against it. As a matter of fact. it is based upon the accepted scientific principles of the day; it promises results which have not been attained by any other means; it is being practically tested by many competent observers abroad. It has gained in favor, apparently, where it has been given fair trial. In view of its great possible value, and

of the interest which it has aroused in other lands, it has seemed important to bring it prominently before the profession, to urge its study, and provoke its discussion, and thus, lastly, to aid, if possible, in the final settlement of its position among the list of useful remedies for one of the most common and distressing maladies which afflict the human race.

WHAT WAS THE PHYSICAL CAUSE OF THE DEATH OF JESUS CHRIST?

By C. C. P. CLARK, M.D.,

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This question, the discussion of which has lately been revived in the *British Medical Journal* (?), and participated in in various other quarters, would seem to have been a puzzle both to the faculties of theology and medical science ever since biblical criticism has had a voice. And yet, if handled with frankness, it would not seem difficult of solution.

In the first place, it seems to be admitted on all hands that Jesus did not die from the immediate and natural, or ordinary, effect of his suspension on the cross. This method of punishment was very common among the Romans, Jews, and other nations of antiquity, and it is abundantly substantiated as a fact, in addition to its consistency with the established laws of human endurance, that the subject of it, when of ordinary health and strength, would survive his torture for from two to four or even five days. But Jesus was suspended but about as many hours, or not above six at the most. Accordingly it was that when at the ninth hour, or six o'clock P.M., Pilate was asked for his body, "he marvelled if he were already dead" (Mark xv. 44).

Nevertheless it has been the part, as it has been indeed the necessity, of orthodoxy to hold that when taken down from the cross by Joseph of Arimathea and laid away in the sepulchre (or recess in the rocky hillside), he was as veritably dead as the soldiers who were sent to break the legs of the crucified supposed him to be; and many ingenious explanations have been devised and argued to account for what, to those who stood by, must have been so strange and unexpected.

Without undertaking the task of setting forth and controverting these, and bearing in mind that the death of Jesus is nowhere represented by the evangelists or elsewhere as miraculous, or other than natural, let us examine the gospel narrative with an unprejudiced eye and see what honest inferences may be drawn therefrom.

And let us bear in mind, too, that the accounts there found are not only all that we have from which to make deductions, but that they are, at least excepting their miraculous or supernatural features, of unquestionable credibility in all essential particulars, differences of detail even lending support to the main story; the capture, the trial, the crucifixion, the interment, and the reappearance of Jesus among the living, are facts as assured to my mind as the taking of Jerusalem by Titus. No sufficient reason can be imagined for the invention of any of them, save only the resurrection; and that that really occurred so unexpectedly to all the disciples, the immediate and rapid spread of Christianity thereafter is alone sufficient evidence, since it is impossible to account for it in any other way. It was the "immortality (believed to be) brought to light through the Gospel" that alone gave that Gospel its enduring and conquering vitality, and is still both its chief support and the great stumbling-block of unbelievers.

What is spoken of by all the evangelists as the "giving up the ghost" by Jesus—it is uncertain how long before he was taken down from the cross—was undoubtedly partial or entire syncope from exhaustion, aided perhaps by the desolation that he felt when he found, or thought he found, himself forsaken by his God (Mark xv. 34); or it might be even that he affected a condition of insensibility in order to escape such further cruelties as the supplying his thirst with vinegar.

However this may be, we can well believe that when the soldiers came to finish the barbarous work, by breaking the legs of the victims, they found him in a condition which men even less ignorant, stupid, and careless than they most likely were, would easily and naturally take for actual death. For Jesus, it must be remembered, was already worn nigh to exhaustion with fasting and anxiety, to say nothing of his undoubted highly sensitive organization.

Here we come, in the Gospel according to John (xix. 32–37, and xx. 27) to a plain solution of the whole great mystery. Soldiers were sent by Pilate, at the request of the Jews, to break the legs of Jesus and the two thieves, in order that the ensuing "day of Preparation" might not be desecrated by their still hanging from the cross, and that they might be effectually disabled from escaping death. They practised this horrible feat of cruelty on the companions in misery of Jesus, but when they came to him they found, or supposed that they found, him to be already dead, and accordingly neglected to complete what anatomists know must have been a somewhat difficult job.

"But one of the soldiers with a spear pierced his side, and forthwith came thereout blood and water."

Now, there is but one part of the human anatomy, it need not to be argued, where the thrust of a spear would naturally be followed by such a phenomenon as this, and that is the region of the urinary bladder.

Moreover, while a wound like that would not immediately destroy life, and might even easily permit the sufferer to go or be conveyed about, and show himself from time to time for a few days, it would not, nevertheless, in view of the poor surgery of those times, and of the uncertain care, or even neglect, that a refugee would inevitably suffer, fail before any long time to prove mortal.

This, then, is the true story of the reappearance or resurrection of Jesus after his supposed death on the cross. Removed to the cool tomb by the tender hands of his friends, and placed in a horizontal position, he recovered, probably after some hours, from his state of syncope or collapse, and easily made his way to some selected refuge, leaving behind him the garniture of the grave which Mary, but not Simon Peter, took for angels clad in white raiment. Then he lingered out his few remaining days, securely concealed from his enemies, but revealed to we know not how many (in the disagreements of the evangelists) of his most trusted followers.

REPORT OF TWO CASES OF FRACTURE OF THE HEAD OF THE FIBULA.[1]

By A. J. McCOSH, M.D.,

NEW YORK.

Fractures of the head of the fibula are of uncommon occurrence. Very few cases have been reported, and the information which can be found about this rare accident in treatises on surgery, and indeed in most of the works on fractures, is comparatively meagre. Stimson, however, in his "Treatise of Fractures" (p. 586), pays no considerable attention to this injury and records seven cases, one having occurred in his own experience. Weir, in a valuable paper on this subject,[2] was unable to enumerate more than nine cases. I remember that his article was read at a meeting of the New York Surgical Society, and, with one exception, no other member was able to add to the list of cases.

In the reported cases this accident has been caused by either muscular action or by indirect violence. When due to muscular action, it has been produced by sudden and energetic contraction of the biceps femoris muscle;

[1] Reported at the Surgical Lecture of Academy of Medicine, October 13, 1890.

[2] New York Medical Journal, vol. xlvii., p. 561.

when due to indirect violence, it has been the result of forcible adduction of the leg. In the two cases which I present to-night we have an illustration of each of these methods.

While the result in each case is satisfactory, a marked difference exists now, as it did at the time of the injury, in the relation of the fragments to each other. In the one patient bony union has been obtained; in the other, the fragments are united by a fibrous band nearly one inch in length.

CASE I.—H. D——, male, aged forty-six, hostler. On May 22, 1889, while in the act of lifting a horse's foot, the animal rolled over against the inside of his thigh, and as his leg slipped under the horse into a position of extreme adduction, he felt a pain and "something give way" on the outer side of his knee. He fell down, and was unable to rise. On examination, after admission into the Presbyterian Hospital, the smooth head of the fibula was not felt in its place, but at a point three-fourths of an inch above where it should be situated was distinctly felt a movable body of bony consistency, about the size of a hickory-nut. This mass could be easily grasped with the finger, was movable laterally, could be pushed upward for a short distance, but could not be made to descend toward the foot. It was directly attached to the tendon of the biceps femoris muscle. Below this was a depression of three-quarters of an inch, and then was encountered the upper end of a bone, somewhat square and angular to the touch, which on being traced downward proved to be the fibula. The patient was a thin man and the diagnosis was unmistakable. The injury consisted in a fracture of the upper end of the fibula, a fragment about three-quarters of an inch in length being drawn upward for a distance of one inch by the contracting force of the outer ham-string muscle. There was considerable swelling about the outer side of the knee-joint, but no luxation could be produced. While the limb was straight an attempt was made to pull down the small upper fragment, but it was in vain. When the leg, however, was flexed, a certain approximation of the fragments was obtained. The limb was placed in a double inclined plane, the leg being flexed to about 30°, and the thigh slightly bent on the pelvis. A strip of adhesive plaster steadied and pulled down the upper fragment. In this position the distance between the fragments was estimated at about half an inch. Considerable pain was experienced on the outer side of the leg, and the position proved an uncomfortable one. There was no loss or impairment of sensation at any point on the leg or foot, neither was there any muscular paralysis present at any time. At the end of three weeks a plaster-of-Paris splint was applied, the leg being semi-flexed. At the end of the sixth week this was removed. At the end of three months the patient walked without a limp, and his injured limb was as useful as it ever had been. Since that time he has been following his trade without discomfort. At the present time there is a separation of three-quarters of an inch between the fragments, which seem to be united by a fibrous band. The upper fragment attached to the biceps muscle can be moved from side to side. There is no loss of sensation or motion.

CASE II.—Male, aged thirty-one. In past years he had sustained on two occasions comminuted fractures of the left femur, and in consequence has had partial anchylosis of his knee-joint. On August 26, 1890, while descending some stairs he slipped and made a violent and sudden effort to recover himself. In doing so "he heard and felt something snap" on the outer side of his left knee. He fell, and was unable to get up. When brought to the Presbyterian Hospital, a fracture of the upper end of the fibula was found. The upper fragment was not more than one-half inch in length. When the limb was straight the separation between the two fragments was about a quarter of an inch; on flexing the leg and pressing the upper fragment inward toward the tibia bone crepitus was obtained and the fragments appeared to be in apposition. On removing pressure the lower end of the small upper fragment appeared to spring away from the joint, and in order to again bring the fractured surfaces together pressure inward had always to be made on the upper fragment. This evidently consisted merely of the styloid process of the fibula, which was drawn slightly upward by the biceps tendon, but it was probable that some of the ligaments which connected it with the tibia had not been completely severed, or else a greater separation of the fragments would have resulted. No paralysis of either sensation or motion was or has been present. The treatment was the same as in the other case, the leg being flexed on the thigh and a right-angled splint applied, a pad pressing the upper fragment into position. At the end of five weeks the splint was removed. The patient can now (seven weeks from time of injury) walk with the aid of a cane. Firm and apparently bony union has resulted. No separation between the fragments can be felt. The head of the fibula is increased in size and roughened, due to a moderate amount of callus which has formed about the fracture.

In neither of the patients just shown has there been loss or impairment of either sensation or motion in any part of the leg. Paralysis due to injury of the peroneal or external popliteal nerve is a serious complication which frequently results from this fracture. The injury consists either in complete division or in contusion of the nerve before it divides into the musculo-cutaneous and anterior tibial nerves. The result is a paralysis of the peroneal and anterior group of muscles, and a loss of sensation beginning about the middle of the outer aspect of the leg and extending downward over the dorsum of the foot. In the case of Dr. Merriam (reported by Weir), instead of loss of sensation there was marked hyperæsthesia combined with muscular prralysis. In the case which occurred in Dr. Weir's own experience he very successfully operated for the relief of this paralysis. This unfortunate accident took place in six out of the nine cases reported by this same writer, and resulted in more or less permanent impairment of the limb.

A CASE OF INSANITY APPARENTLY DUE TO PELVIC ABSCESS AND CURED BY SURGICAL TREATMENT.

BY C. M. HAY, M.D.,

ASSISTANT PHYSICIAN AND PATHOLOGIST TO THE NEW JERSEY STATE INSANE ASYLUM, MORRIS PLAINS, N. J.

THE following case appears sufficiently interesting to warrant this notice of it:

Miss D. C——, aged twenty-three, single, and a hat-trimmer by occupation. Possessed fair education, but naturally of a low grade of intelligence. Admitted November 8, 1889. Family history unknown. Personal history prior to illness presented no circumstances bearing on the case. Her attacks began some two months prior to admission, with strange actions, dulness, stupor, and pain in left ovarian region. There was a progressive increase of these symptoms, and two weeks before coming here she was confined to bed in a mental condition alternating between "violent and threatening," and "quiet, seemingly demented," in the language of her physician. For her condition on admission here, and for the privilege of then seeing the case, I am indebted to my colleague, Dr. Elias Gorton, into whose service she was received. At that time her condition was as follows: A well-formed girl, above middle height, with healthy heart, lungs, and abdominal organs, except for an acceleration of the pulse beat, and gastric and intestinal indigestion. There was slight irregular fever, a yellowish-white, furred tongue, with prominent papillæ, and loss of appetite. The face wore a dull, anxious expression, there was great mental apathy and confusion of ideas, with a delusion that she had been pregnant for four months. The urine only contained a great excess of the earthy

phosphates, and was high-colored and lessened in amount. She gave a history of constipation. On examination the abdomen was a little full, and there was pain, tenderness, and tremor to deep pressure in the left iliac fossa. Examination proved her statement that she was pregnant to be a delusion, the uterus not being enlarged.

I next saw the case November 28, 1889, on which date she was admitted to the hospital wards, with a statement from Dr. Gorton that her symptoms had progressively become more marked, and that she had lost rapidly in strength and weight.

On admission to my wards a bimanual examination revealed a large indurated mass, occupying the left ovarian and iliac regions. The uterus was movable, and was much displaced to the right and slightly downward. The left tube and ovary could be outlined against the vaginal aspect of the tumor. Externally the swelling caused a decided fulness of the left iliac fossa and could be outlined by the fingers. It was not movable and fluctuation could not be obtained. The temperature varied from 99° to 102° F., and the pulse from 100 to 120 per minute, the impulse being irritable and weak. The woman had failed very much in flesh and strength. The memory appeared normal, and beyond dulness of intellect several examinations failed to reveal any defect of judgment, the imagination, or the special senses. Vision was normal. A certain indescribable air about the case led to repeated examinations of her mental condition, which, after her confidence had been fully obtained, revealed that she harbored a thoroughly systematized delusion, the main points of which were that her former physician, who attended her prior to her coming to this institution, was Jesus Christ, that if he were present he could cure her instantaneously. She described minutely his first visit, how she became impressed that he was a divine character, and how upon his once coming to her room she had recognized a halo about his head, and instantly realized that he was Jesus Christ. It may properly be mentioned here that the subject of this delusion is a venerable-looking doctor with white flowing hair and beard. In explaining her reasons for her belief she became animated to exaltation, but on ceasing speaking her ordinary air of melancholy and physical suffering returned.

She was placed upon a treatment of absolute rest, a light nutritious diet, a saline purgative in the morning, full doses of quinine, and moderate doses of opium, with local antisepsis and externally counter-irritation. This lowered the fever and relieved pain, so that for some days the patient seemed to be improving, but on December 9th she grew worse, and failed steadily until the 14th, when a severe chill occurred, followed by high irregular fever, sweats, and marked cachexia.

Examination now revealed some enlargement of the tumor with imperfect fluctuation. On the 16th, with the assistance of Dr. L. L. Mial, I evacuated the abscess by an oblique lateral incision through the abdominal wall. Upon introducing the hand into the cavity the left tube and ovary could be felt a little enlarged. The upper wall of the abscess was extremely thin, and the intestines could be plainly felt through it. The contents of the abscess consisted of purulent pus with shreds of lymph. The upper wall was carefully curetted with the finger-nail, a considerable quantity of indolent fungoid granulations being removed. The cavity was then cleansed and two large rubber tubes left in, one directed down into the pelvis, and the other upward toward the intestines, and an ordinary dressing applied. On the third day an erosion into the intestine occurred and considerable fecal matter was discharged in the dressings. The case was then dressed twice a day, being thoroughly cleansed each time by irrigation with a medium-strength solution of the permanganate of potassium. In ten days the fæces were normally passed and the abscess discharged healthy pus. The tubes were gradually shortened and removed in a month, and the patient was practically well on February 15th—only a small fistulous tract in the abdominal wall remaining, which healed kindly in a few weeks. Under tonics and moderate exercise she rapidly gained flesh, and on March 24th was perfectly well. Menstruation returned regularly, it having been absent for four months prior to operation. On this date she appeared entirely rational, but when questioned concerning her delusion, it was still present, but she was not enthusiastic over it. Her general mental condition was excellent, and no one would have discovered any mental trouble in her, except informed regarding her secret delusion.

July 19, 1890, she is a picture of health. No return of local symptoms; states she only dimly remembers events up to time of operation, and that the greater part of the time previous to it is a total blank. Frankly admits the falsity of her delusion respecting her physician. The exact time of its disappearance cannot be ascertained, but it was between March 24, 1890, and July 19, 1890. She was kept under observation until October 1890, and then discharged wholly well, mentally and physically.

Remarks.—In this case an elaborately systematized single delusion, which prior to operation was firmly fixed, after it slowly faded and finally disappeared. From the history of the case it will also be noted that the delusional belief arose gradually during the invasion of her pelvic trouble, and that it was attended by other evidences of insanity. The abscess itself, in the absence of tubo-ovarian disease, can only be attributed to an indefinite traumatism received a short time prior to her illness. Coincidentally with its development the mental symptoms appeared, and there were, at first, mental confusion with stupor and apathy, and a condition of semi-dementia with a few maniacal outbreaks. In two weeks these symptoms passed away, leaving her dull and depressed, and with a few simple delusions. One of these delusions, viz., that her physician was Jesus Christ, etc., developed and became thoroughly systematized and fixed, while the others, including the belief that she was pregnant, etc., faded away; so that at the time of the operation she was practically sane, with the exception of this single complex delusion. From the character of this delusion, and the very positive manner in which she reasoned to prove its reality, it was feared that it was only an initiative symptom of a chronic mental degeneration. After two months, however, her general improvement and the degree to which the other mental faculties gained power, warranted the hope of her final recovery, and the case was watched with considerable interest, with the gratifying result already described.

The mental symptoms in this case corresponded to none of the ordinary forms of insanity, but were, as will be seen from the above account, distinctly atypical.

There has been no similar case admitted since my residence here, in a total of over four hundred admissions.

Clinical Department.

ERYTHROMELALGIA.

By A. V. WENDEL, M.D.,

NEWARK, N. J.

In the latter part of last July I was called to Mrs. G——, and obtained the following history: She was sixty-two years of age, had borne four children, and by occupation a nurse. Her parentage had been healthy, father dying at ninety-six from an accident. Her own health had always been good up to last April. At this time she was nursing a case of puerperal septicæmia, and a number of times daily had to wring out cloths dipped in hot carbolic acid solution. After doing this for several days Mrs. G—— noticed her feet to be very painful, and on examination blue and swollen on the anterior portion. These symptoms became so severe as to oblige the patient to give up her profession and take to bed. The pain was excruciating, especially at night and on pressure, the attacks coming on paroxysmally.

When I was consulted I found her much emaciated, with atheromatous arteries, obstinate constipation, feet presenting, over the anterior and lateral aspects, especially on the plantar surfaces, irregular bluish purple spots, very sensitive, and sweating freely. Urinalysis gave negative results.

The treatment consisted of a ferruginous tonic, the usual hygienic measures, and cold affusions locally; while the general condition improved the local did not. The local application of belladonna, hot water, etc., failed. Electricity only aggravated it. I then decided to put her on arsenic—the liq. acidi arseniosi—directing it to be pushed until physiological symptoms became manifest.

After several days of this treatment the patient began to improve, and six days after walked around the block with ordinary shoes, being the first time in months that she had been able to tolerate any covering on her feet. Improvement went on so rapidly that a week ago I stopped the arsenic, no unfavorable symptoms having appeared to this time. Whether the carbolic acid may be considered in the relation of cause and effect, or simply coincident, I am unable to say. The failure of all other remedies and the favorable influence of arsenic in this case, certainly warrants a faithful trial in this painful affection.

134 Newton Street.

Progress of Medical Science.

Embryology.—At the Leeds meeting of the British Association for the Advancement of Science, Professor Milnes Marshall, in his presidential address to the Biological Section, said that embryology had thriven mightily of late years; but the watching of all the processes of development was of trifling account compared with the great generalization, which showed that the development of animals had a far higher meaning. The phases through which an animal passed in its own development were no accidental freaks, but represented more or less closely, in more or less modified manner, the successive ancestral stages through which the present condition had been acquired. Evolution told us that each animal had had a pedigree in the past; embryology revealed to us this ancestry, because every animal in its own development repeated this history. Such was the recapitulation theory. This had been hinted at by Agassiz, suggested more directly by von Baer, but first clearly enunciated by Fritz Müller; it had since been elaborated by many, notably by Balfour and by Ernst Haeckel. "Natural selection" explained the preservation of useful variations, but it did not account for the formation and preservation of useless organs. "Recapitulation" solved the problem at once by showing that these organs, though now useless, must have been of functional value to the ancestors of their present possessors, and that their appearance in existing forms was due to repetition of ancestral characters. Man himself presented many such features. The existence in the human adult of ear muscles which he did not use, of gill clefts in the embryo that never possessed functional importance, furnished suggestions of past history identical in the lesson they gave with that which the linguist found in the retention of a silent consonant in some words. The principle of degeneration, also, should not be overlooked. Professor Marshall emphasized the importance of Kleinenberg's theory as to the development of new organs, but said it was yet too early to realize the full significance of it. Embryology, though, could not provide an immediate or complete answer to the great riddle of life; it was a means, not an end.

The Treatment of Abdominal Hydatids.—Although many people hold that Trousseau's method accomplishes the safe removal of hydatids from the abdomen, yet actual practice proves otherwise. Septic peritonitis, as indicated by abdominal distention and elevated temperatnre, is found in many cases to follow the introduction of pins. Whenever pins are introduced with the view of causing adhesions, that object can be achieved in two ways only, either by the presence of germs on the pins that set up adhesive processes, or else by a leakage of fluid of the same properties. Perfectly sterile pins cannot give rise to adhesions. On the other hand, by introducing septic pins, or by a leakage of irritative fluid, a peritonitis will ensue, the control of which is out of the hands of the operator. The aseptic era, however, has given us, in von Volkmann's method, the ideal execution of Trousseau's original plan. It is now an established fact that there is no more danger in opening the peritoneal cavity than in cutting off a finger; hence that operation may be used for purposes of diagnosis. These facts being granted, the writer asks why uncertain, or even dangerous, methods should be adopted for the production of adhesions, when we are able to secure them by an open and scientific operation. It has been maintained that Trousseau's method is easily performed, and therefore best suited to the greater number of operators. The writer asserts that he can perform von Volkmann's method in less time than that occupied in introducing the needles by the other plan. Great operative skill is not necessary. Anatomical knowledge and strict asepsis are the two indispensable requirements. In following von Volkmann's method the operator has the great advantage of being able to see what he is doing. The abdominal cavity is freely opened, and the cyst extensively exposed. A week later it is incised, and there being by that time firm adhesion to the abdominal parietes, peritonitis is rendered impossible. Six successful cases are reported, in none of which the temperature reached 100° F., nor was there any sign of peritonitis. In one case there was a cyst of left lung, which was reached by resection of a rib, followed by pneumothorax. The writer had twice to make a way through the substance of the liver, when he used Paquelin's cautery, and found no difficulty. The track is kept easily open, and the discharge of bile is harmless, and soon disappears. Dr. Ross has opened two cysts situated on the convexity of the liver, one from above, and the other from below the diaphragm. He prefers the higher operation. In opening below the diaphragm, the latter is apt to block the tube, and to greatly interfere with drainage.—*The London Medical Recorder.*

Treatment of Enlarged Bursæ and Ganglia.—Mr. Bond states that he is strongly in favor of the treatment of enlarged bursæ in the neighborhood of large joints by the radical method of excision of the whole or a large part of the cyst-wall. In dealing with these swellings in the popliteal space, the incision must be made well down to the cyst-wall before beginning any dissection; if this be done, and the cyst well defined while tense and before it is opened, it can be isolated without difficulty. It is then best to lay it open, and ascertain from within what extensions and communications it has; these must be dealt with, and then as much of the cyst-wall removed as possible. In dressing the wound, pressure should be applied with wool-dressing, and the limb bandaged in a semiflexed position, so that the skin and soft parts fall together, and a tightly stretched scar is avoided. The same method may be extended to the enlarged bursæ over the olecranon and patella. The treatment of the swellings in the sheaths of the tendons in relation to the wrist-joint is next discussed. Those simple ganglia which are too large to rupture are best treated by excision. An incision is made over the swelling, which is isolated as far as possible; it is then laid open and its prolongations defined. As much of the cyst-wall as can be isolated is then cut away, and the posterior portion lying over the wrist joint is left. As a rule, the wound heals by first intention, without any adhesion of the tendons. In cases of compound ganglia the operation is sometimes very complicated, the tendons being studded over with a velvety membrane and vascular fringes, like the lining membrane of the cyst-walls. In these cases the tendons must

be picked up separately, and systematically cleaned, one by one; when this is done, the wound should be stitched up, and, as a rule, good movement is obtained in a short time.—*The Practitioner.*

Bacteriological Researches as to the Nature of Ozæna.—Dr. Marano conducted his researches in the laboratory directed by Professor de Renzi, at Naples. The secretions examined were taken from ten patients suffering from ozæna, in the clinic of Professor Massei (the London *Medical Recorder*). Microscopical examination of dried specimens showed, among detritus of mucus and pus cells, small bacteria, a few longish bacilli, and many micrococci of various sizes. Among them, however, was constantly to be found a short, thick bacillus, almost always in the form of diplococcus, surrounded by a peripheral halo-like capsule. Cultivation experiments always yielded, with other variable forms, a thick bacillus, almost always in the form of diplococcus and encapsuled, and perfectly like that observed in the dry preparations. This rhinobacillus is identical with that described by Loewenberg, who, however, owing to defective methods, did not find the bacillus encapsuled. One of the characters which distinguishes it from other capsuled microbes is a clear zone of whitish color which appears toward the extremities and toward the middle. The bacilli are disposed variously in chains and masses. All the usual mediums are favorable for culture of this microbe, especially gelatine, and the cultures present distinctive characters. Control-researches were performed with the object of seeing if this bacillus was constant in ozæna alone, or if it accompanied other catarrhal and inflammatory affections of the nasal passages. He examined the secretions from individuals affected with chronic catarrh, and with dry and atrophic forms; he examined, also, normal mucus, and mucus from a case of chronic atrophic rhinitis consecutive to ozæna, as well as from a case of fetid rhinitis consecutive to myxomatous tumors. The result was always negative. The capsuled bacillus of ozæna was always absent. Other questions remain to be solved, such as whether the bacillus is the causative agent of the pathognomonic fetidity, whether it is the cause of the disease, and, lastly, whether inoculations can produce the disease in all its phases. As to the fetor, M. Marano never found it in pure cultures, but in direct inoculations about the eighth or ninth day a stinking odor developed, which, however, was not that of ozæna. Suspecting that the fetor was produced, not by the sole action of the capsuled bacillus, but by its influence combined with that of other normal micro-organisms of the nose, he inoculated a pure culture of capsuled bacilli with a microbe of the nature of staphylococcus. After two days a fetid odor was present, not identical, however, with that of ozæna, but resembling it. As bearing on the other questions, M. Marano states that inoculations made on dogs and rabbits gave a negative result; he, however, hopes to make further experiments on this point.

The Hæmatozoa of Malarial Fevers.—Dr. Fajarnes gives a condensed statement of the existing state of opinion among the microbiologists in reference to the parasitic origin of intermittent fever. He observes that the conclusions flowing from Laveran's investigations were accepted by some and combatted by many others, while the views of Klebs and Tomasi-Crudeli had currency for a time, during which their bacillus was described as the specific germ of paludal fevers. The discovery of hæmatoblasts, with or without pigment, in the blood of those suffering from ague, which was made by Marchiafava and Celli, seems sufficient to distinguish the malady, especially as their experiments have been confirmed and completed by Golgi, Mechnikov, Councilman, and other investigators. Klebs and other observers in the same field would not admit this. They held that these microbes are not living organisms, but different forms of hyaline degeneration of the red corpuscles of the blood, which had, indeed, been artificially produced in animals by Mosso and Schiavuzzy. Golgi, on his part, showed that the bacillus of Schiavuzzy is not a morbid product at all, and that it has nothing to do with paludal fever. Gentsinsky sustains that the organism described by Laveran (hæmatoficus malaricus) is the cause of ague. Ferran, on the other hand, affirms that he can nowhere find Laveran's parasite. Laveran has published a *résumé* of the works on the subject published by him during the last ten years, from which we take the description of the different microbes described in the blood of those affected with malarial fever. 1. Spherical bodies. These are the commonest. They are formed of a transparent hyaline substance. Their diameter varies from 1 to 8 mm. of mm. They exhibit amœboid movements. Laveran met them 389 times in 432 ague patients. 2. Movable filaments. Whip-like bodies. They are transparent, very fine, from 21 to 28 mm. of mm. in length. They exhibit lively and varied movements, glide along in the blood, and are sometimes united by one of their extremities to a spherical body. They are formed from the spherical bodies, and each of them may have two or three filaments, disposed without any regularity or symmetry. Bouchard, Strauss, and Laveran consider the flagella as characteristic of paludal fever. 3. Crescent-shaped bodies. Colorless and transparent, with black pigment granules in the middle, from 8 to 9 mm. of mm. in length, and 2 in breath. 4. Hyaline bodies. Motionless, irregular in shape, and with pigment. He considers them to be bad forms of the spherical bodies. 5. Tassel-shaped bodies. Spherical in shape, with pigment in the middle and segmented in a regular manner. Laveran assigns to them a secondary place, but Golgi gives much importance to them. Leucocytes of various forms are also observed in the blood, and they are supposed to represent different phases in the evolution of the same parasite. Laveran found in the blood of 432 patients affected with paludal fever:

Spherical bodies alone in	31
Spherical bodies and flagellæ in	33
Crescentic bodies alone in	43
Spherical, crescentic, and flagelliform bodies in	59
Spherical and crescentic bodies in	266

Most of those who have studied the question, including Dr. Fajarnes, have accepted Laveran's conclusions. Since 1870, ten different species of microbe have been observed and brought forward by different observers as the essential cause of malarial fever, but the repetition of the names assigned to these organisms would scarcely be instructive to the reader.—*The London Medical Recorder.*

Palatable Castor-Oil Mixture.—In the following preparation of castor-oil the disagreeable taste of the oil is replaced by a pleasant flavor of almonds:

℞. Castor-oil	30 parts.
Bitter almonds	2 "
Sugar	30 "
Gum tragacanth	½ part.
Orange-flower water	10 parts.
Water	120 "

Mix.

The only drawback to this mixture is that it requires a good deal of it for a dose, a teaspoonful of the oil being contained in about five teaspoonfuls of the mixture.

It is said that the Practice of Drinking Cologne is becoming very common in Europe and in this country, and, as an indication of this, that the sale of the perfume has increased greatly of late years. Women are more addicted to the habit than men, and a writer in the *Quarterly Journal of Inebriety* says that the presence of obscure and complex nervous disorders in a woman who uses cologne externally should always suggest the possibility of its internal use.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, November 15, 1890.

KOCH'S "CURE" FOR CONSUMPTION.

As we write, the daily papers are printing, with every issue, some fresh news of the wonderful, and as yet secret, "cure" for consumption discovered by Dr. Robert Koch. The interest in it is natural and intense. In this country there are some two hundred thousand sufferers from this fell disease, and in Europe and other parts of the world a still greater army of victims are hopefully looking for some cure, or patiently awaiting the end.

The expectations aroused by the numerous and mysterious reports that are issued from Berlin must be very great. It is well, therefore, to consider how much can be in fact realized by the announced "cure." Of it we know at least this, that it is a germicide, and that its action depends upon its destroying the vitality or power of growth of the tubercle bacilli. If this is the case, it is a remedy that must have various limitations to its usefulness. Phthisis is, in most cases, in its inception an infectious bacillary disease. But after lung tissue is once well invaded, and necrotic and inflammatory processes set in, the infection is a mixed one, and pyogenic organics are largely in control. No agent which simply destroys tubercle bacilli can, therefore, seriously modify the phthisical process. Germicides cannot cure phthisis in its second and third stages.

We are confident that Dr. Koch will not claim this for his "cure." Already it is stated that cases of lupus, of tubercular joints, and of phthisis in the first stage have been cured. But all these forms of tuberculosis can already be relieved by surgical and hygienic measures at our disposal. It remains to be seen, therefore, whether Koch has really supplied us anything which will carry the treatment of tuberculosis any further than it already has been brought.

One thing further, perhaps, he has achieved, viz., a method of prevention for those susceptible or exposed to the disease. This may be a gain, although the prevention of phthisis in individual cases is almost always possible if proper care is taken.

THE TREATMENT OF A NATIONAL STERILITY.

THE discussion in France over the subject of its decreasing birth-rate and slight increase in population, has brought up a great many questions which are of medical interest. In 1888 there were 882,639 births and 794,933 deaths. The ratio of births has fallen from 30 per 1,000 in the early years of the century to 23 per 1,000. The number of marriages has fallen to 7.1 per 1,000, and the number of births to each family has fallen to three. Divorces are increasing in frequency, especially among the educated classes, while the tendency is for marriages to take place later in life. The death-rate alone makes a favorable showing, it being less than in previous years.

The Académie de Médicine has taken up the study of this matter, and M. Lequean has proposed to it certain therapeutical measures for alleviating the national sterility.

The tendency to late marriages, he thinks, ought to be opposed, for the reason that by such delay the man may get syphilis and become sterile, and the woman's period of fecundity is shortened. There are 127,143 religious celibates in France. If these were married, the birth-rate would be increased from 23.09 to 23.11 per 1,000. The law of primogeniture and the expenses and formalities of the marriage contract tend to lessen the number of married people.

Prostitution and syphilis are thought to be two of the most important factors in causing a low birth-rate.

The proportion of sterile marriages in France is estimated to be 13 per 100, while the normal rate, or at least the average rate, in other countries is about 10 or 12 per 100.

The mortality in France is not great, but can be reduced.

M. Lequean recommends specifically, as measures to increase natality, protection of young women, by raising the responsible age to twenty-one, and making the father of an illegitimate child responsible for its care.

Legislation favoring marriage, by increasing the taxes and military duties of celibates, is advised. The regulation of prostitution, and especially the prompt and general treatment of venereal maladies, is considered also as of the greatest importance.

It may be that French legislators can devise laws which will help a little to increase the national birth-rate, but it seems a very desperate task; for the causes of the decline of population in France are most likely deep-rooted and dependent upon an inherent defect in race quite as much as upon bad artificial conditions. There is hardly a single factor mentioned by Lequean as a cause of the low birth-rate of France which does not exist in other European countries whose birth-rate is a normal one.

METHYLENE AS AN ANÆSTHETIC.

DESPITE the fact that so eminent a surgeon as Sir T. Spencer Wells uses methylene as an anæsthetic, and has continued to advocate its use for twenty years, very few have followed his example. This is because the statistics of mortality from this anæsthetic apparently show it to be considerably more dangerous than ether.

A recent fatal case at the Plymouth Hospital has called out a letter from Sir Spencer, in which he states that this and other accidents have been due to improper administration. He says: "I have never, either in hospital or private practice, since I began to operate in 1870 under methy-

lene, ever seen anything approaching to danger under its influence, nor have I had a moment's uneasiness or apprehension such as I have repeatedly suffered during the administration of chloroform, ether, the A. C. E. mixture, laughing-gas followed by ether, or the mixtures of chloroform and alcohol which some have supposed to be identical with, or substitutes for, methylene. And it is very seldom that in the most prolonged operations—say, for an hour—more than from six to eight drachms of methylene are used; while I have repeatedly found that in operations of fifteen or twenty minutes, not more than from two to three drachms have been evaporated."

Sir Spencer uses the Junker inhaler, and insists that the anæsthetic must be given freely diluted with air.

THE EDISON TREATMENT OF GOUTY CONCRETIONS.

Mr. Edison has before this stepped into the arduous field of therapeutics, bearing with him some kind of a complicated liniment, which speedily fell into disuse.

Now the distinguished electrician is making some experiments in the treatment of gouty concretions. The idea which Mr. Edison had worked out is that by using strong electrical currents these concretions can be absorbed and carried off. After making some tests with membranes and solutions, he tried (*Therapeutic Gazette*) whether a healthy man, after being subjected to such a course of treatment as a patient suffering from concretions might be expected to undergo, would not give indications of the absorption of lithium in his excretions. In October, 1889, J. D——, an active, healthy laborer, aged twenty, and of one hundred and forty pounds weight, was operated upon in his laboratory. He sat in a chair, and kept his hands immersed to the wrists in glass jars, one containing a solution of two per cent. lithium chloride with a platinum electrode, and the other containing a solution of common salt with the negative electrode. The current passed through him was four milliampères, which was as much as he could conveniently stand. This treatment was continued for about two hours daily during one week, the total time of application amounting to eleven hours. His urine was collected during that week, and tests were then applied to it.

Traces of lithium were found.

The next experiment was made upon a man, aged seventy-three, who had suffered from gout for ten years, and all of whose joints except the knees were involved. A current of about twenty milliampères was passed through a jar containing an aqueous solution of lithium chloride, density 1.08, in which the patient immersed his left hand up to the wrist. His right hand was similarly immersed in a solution of common salt.

The current was given four hours a day for six consecutive days. At the end of this time the size of one of the joints of the little finger had diminished from 8.6 ctm. to 8.2 and later to 8 ctm. There was also some relief of pain.

It seems to be thought from this that an actual absorption of concretion took place. It might, however, easily be that the slight reduction in swelling was due to absorption of inflammatory products. It has long been known that electrical currents will apparently do this.

Mr. Edison's experiments, therefore, seem to us to be very inconclusive; they are interesting, however, especially in showing that an aged man can take a current of twenty milliampères for four hours daily, and feel no especial effects therefrom.

A REFLECTION UPON DOCTORS, MORTALITY, AND ATHLETICS.

Our esteemed and reflective contemporary, *Life*, has been engaged of late in certain contemplations upon mortality and death.

In re the subject of sickness, it wonders why Mr. Richard Croker, whom the doctors pronounced incurable, incontinently got well; and it deduces some conclusions unfavorable to the certainties of medical science. Perhaps its reflections are not altogether without justice, although medical men are, we think, particularly careful in giving positive unfavorable prognoses. When given, they are generally correct, for most fatal and incurable diseases are readily recognized. We must believe that in the case of the eminent statesman above referred to there is a mistake. Either the doctors did not in fact say he was incurable, or else his time will come later. We trust Mr. Croker will not forget what he owes to the science of prognostics and the stability of professional reputation.

But *Life* is also puzzled over the careers of the late Cardinal Newman and John Boyle O'Reilly. The former, a frail, slight man of infirm constitution, but despite this he lived to a very advanced age; the latter was a man of splendid physique, who kept his system in training by physical exercise, athletic sports, and followed all the suggestions of modern physical culture. Yet he died in the prime of life. Shall we not, then, live quiet, ascetic lives, ignoring the body and cultivating the spirit? or shall we cultivate both body and mind? The latter course is the one so much commended to-day; yet it is not a sure passport to longevity, as many cases prove. In fact, the brain-worker is better if he lives a regular, temperate life, and pays no attention to the development of his muscles. A little walk, some fresh air, and sound sleep are all he needs. Some people, to be sure, can be athletes and do brain work also, but it is not the rule. A sound mind should have a sound body, but it does not need herculean muscles. The best athletic work is done by growing boys and adolescents, who have an extra supply of vitality. When they have matured, and undertaken the responsible work of life, they speedily drop out of the championships. And the lesson we would draw from the opposite cases brought up by *Life* is, that athletics are not needed by brain-workers, and will, if carried to excess, shorten life rather than lengthen it.

THE PREVENTION OF DIPHTHERIA AND SCARLET FEVER.

There are nearly two thousand deaths from diphtheria, and nearly as many from scarlet fever, in this city every year. The figures, to be sure, have fallen below this occasionally, but the number is always high. Three or four thousand deaths means, at a very low estimate, twenty or thirty thousand cases of sickness from these

diseases. The cost of such sickness, directly and indirectly, runs up into the millions.

People do not yet appreciate the economics of preventive medicine, but it will some time come to them.

Meanwhile physicians and sanitarians are working out the problem. Dr. Seibert, in an article on "The Prevention of Diphtheria and Scarlatina," makes a suggestion which will appeal rather directly to the self-interest of the medical profession.

Speaking of schools as centres of infection, he says: "Nothing but radical measures will bring about a change in preventing the spread of the disease in the schools, and he recommended that the throats of all school children be examined by a physician every day, the children to use their own fingers as a tongue depressor, and when the physician saw anything suspicious or out of the way, though not diphtheria, send the child home with the information that it was sick, and to send for the family physician. This work would cost the city about one hundred thousand dollars a year, paying each of three hundred physicians about three hundred dollars a year."

Three hundred places at three hundred dollars a year would be a fine plum for some of our city's political machines to dispose of. No doubt the proposition to establish such offices would be met with a shock of horror by the good citizens of the town, who would see in it only another public crib for the especial delectation of medical men. If these officers, however, succeeded in stamping out diphtheria and scarlet fever, the city would save and the doctors would lose hundreds of thousands of dollars. For the existence of twenty thousand cases of these zymotic fevers means large sums of money to the medical profession.

Yet the doctors have always energetically initiated and loyally supported all measures for the prevention of disease, and they would join, no doubt, in promoting the one here suggested if it were considered feasible and effective.

THE TEMPTATION OF JOHNS HOPKINS.

It is announced that the committee of ladies who resolved to raise $100,000 and give it to Johns Hopkins University for the purpose of founding a medical college to which women would be admitted, have succeeded in their purpose.

In tendering the money conditionally to the trustees the committee say: "There is little doubt that a sufficient number of women ought to be educated and trained in such manner as to be fully able to care for sick women who may wish or ought to be treated by women. We have devoted ourselves to the furtherance of this object. We have reason to hope that a university which proposes to found a medical school intended to teach advanced methods in the treatment of those diseases which afflict mankind will not refuse to women the opportunity of learning such methods."

The trustees, it is announced, have accepted the gift, and hereafter Johns Hopkins is to be a bi-sexual institution so far as its medical department is concerned.

This action of the trustees, it is believed by many, will seriously impair the prestige and limit the usefulness of the university's medical school. Much was expected of it at one time, but the profession will no longer turn kindly to an institution which sells its privileges for the ineffective sum of $100,000. The school was expected to start to work with a high-class equipment which would draw to it the best educated and most ambitious students. This class of men, however, in surveying the field, will now find that there are half a dozen other medical colleges equally well, or better equipped, in which they can pursue their studies without the disillusioning propinquity of lady medicals; and they will choose such places. For, however much man may esteem and honor woman he prefers to pursue anatomical and pathological studies alone.

The medical education of women has thriven but in independent institutions, as the prosperity of the colleges in New York, Philadelphia, and Chicago shows.

The action of the Johns Hopkins trustees may be lauded as evidence of broad and liberal views; as a matter of fact it is, we fancy, the result largely of the persistent nagging of some of the estimable and well-meaning ladies of Baltimore. The action was not needed in the interests of the medical education of women; for the sum of $100,000 given to the Women's College of this city, or of Philadelphia, would have provided much more effectively for this purpose. Thus the donation to the Baltimore school lowers the school without elevating the woman; for Baltimore cannot supply the clinical opportunities offered to women in the larger cities. And $100,000 is but a bagatelle in running a great medical school with male and female compartments.

A DIRECTORY FOR NURSES.

A correspondent of our melodious contemporary, *The Nightingale*, sends to it a letter which calls up a matter that ought to interest the profession of this city. She says:

"I am not personally interested in the opening of a directory for nurses in New York, but only as having been for nearly three years connected with the Brooklyn Directory, and knowing how very beneficial it would be to nurses, physicians, and the public. I think it a very serious drawback that in New York the physician should be so often called to hunt up a nurse when his time may be of great value and a life may depend upon his presence in the sick room. Again, the present directories are unfair to the nurse. They charge $3 for registering, and then ten to fifteen per cent. of your earnings. No woman will pay this enormous percentage if she can possibly get work without it. Physicians do not, I think, as a rule, know how large this fee is. I have spoken with a number of prominent physicians, and they say that a central directory would be a great convenience, and would undoubtedly succeed.

"The Brooklyn directory was founded some six years ago, by an appropriation of $500 by the Brooklyn Medical Society. There are now some 265 nurses on its roll, and it is self-supporting and a complete success. Nurses pay a $5 fee the first year, and $2 yearly afterward. Now in a city like New York the expenses of finding a nurse would be greater and the fee would require to be larger, but still it need not be burdensome."

There are, we believe, at least three bureaus for nurses

in the city conducted under private auspices. Some objections to them are referred to by the correspondent.

Some difficulty is undoubtedly at times experienced by physicians in getting nurses promptly.

A nurses' directory has been successfully conducted in Philadelphia in connection with the College of Physicians and Surgeons. Perhaps in this city the County Medical Society or the Academy of Medicine might take hold of the matter.

News of the Week.

A Hospital Unpleasantness.—Dr. Charles Meigs Wilson has resigned the position of chief physician of the Philadelphia Lying-in Charity.

Death of Dr. A. B. Carpenter.—Dr. Arthur B. Carpenter, of Cleveland, O., died suddenly at his residence, October 15th, at the age of thirty-seven, of fatty degeneration of the heart. Up to within three hours of his death he appeared in robust health. Dr. Carpenter was eminently a self-made man, of commanding presence and genial address; he had attained a large practice in the domain of gynecology, to which subject he had contributed many valuable articles. He was an active worker and took a prominent position in the local and national medical societies. In his untimely death the medical profession of Ohio has lost a most valuable member. According to an expressed wish, his remains were cremated at Buffalo.

Reports at the Academy on the International Congress.—The meeting of the Academy of November 6th was devoted to the reading of reports on the Berlin Congress. Dr. A. Jacobi, Chairman of the American Delegation, read an introductory which appears in this issue. The other reports were from members of the Academy who had attended the various sections: Section on Internal Medicine, by Dr. F. P. Kinnicutt; on Surgery, by Dr. Robert Abbe; on Ophthalmology, by Dr. Herman Knapp; on Laryngology, by Dr. F. H. Bosworth; on Neurology, by Dr. M. A. Starr; on Dermatology, by Dr. A. R. Robinson; on Orthopædics, by Dr. N. M. Shaffer; on Gynecology, by Dr. H. J. Boldt. Dr. A. Caillé said that, owing to the lateness of the hour, he preferred to present his report on pediatrics to the Section on Pediatrics. The reporters sought to give, in a very condensed form, the scientific facts of greatest interest presented at their respective sections.

Section on Genito-urinary Surgery of the Academy.—At the same meeting, November 6th, the Academy voted in favor of establishing a Section on Genito-urinary Surgery.

The New York Academy of Medicine.—The new building of the Academy, at 17 West Forty-third Street, which has been in process of construction for the past eighteen months, is now completed, and is to be opened with appropriate ceremonies and a general reception on November 20th. The anniversary address will be delivered by Dr. Edward L. Keyes, on "The Academy of Medicine." Dr. Loomis will give an address of welcome. Drs. Billings, of Washington, Weir Mitchell, of Philadelphia, and Fitz, of Boston, will express the congratulations of other cities at the completion of the building. Dr. Jacobi will give some account of the library of the Academy, which is now the most complete working medical library in the country after that of the Surgeon-General, at Washington. On behalf of the many generous citizens, outside of the profession, who have contributed to the erection of the edifice, Mr. D. Willis James will speak, his subject being "The Influence of Scientific Associations upon Great Cities." The exercises will be concluded by remarks from Dr. Fordyce Barker. Invitations have been extended to a large number of distinguished persons, and it is expected that the reception will prove a memorable occasion in the history of the Academy. Admission will be by card only.

Dr. F. G. Test has been appointed superintendent of the asylum for the incurable insane at Hastings, Neb. Dr. Test has been the assistant superintendent for some time, and the acting superintendent since the resignation of Dr. Stone.

The New York Obstetrical Society.—At the annual meeting of the New York Obstetrical Society, held October 21, 1890, the following officers were elected: *President*, Dr. Joseph E. Janvrin; *First Vice-President*, Dr. Henry C. Coe; *Second Vice-President*, Dr. Robert A. Murray; *Recording Secretary*, Dr. Arthur M. Jacobus; *Assistant Secretary*, Dr. James R. Goffe; *Corresponding Secretary*, Dr. Augustus H. Buckmaster; *Treasurer*, Dr. J. Lee Morrill; *Pathologist*, Dr. Calvin T. Adams.

American Academy of Medicine.—The Constitution was altered at the last annual meeting, so as to admit, in addition to those possessing the degrees of A.B. and A.M., those who can present evidences of preparatory liberal education equivalent to the same. Dr. J. E Emerson, Detroit, Mich., Chairman of Committee on Eligible Fellows, will forward to any applicant copies of the amended Constitution and By-Laws, list of members, and other information as to the Academy. RICHARD J. DUNGLISON, *Secretary*, 814 North Sixteenth Street, Philadelphia, Pa

Nobody Hurt.—Dr. S. S. Cartwright, of Roxbury, Delaware Co., N. Y., sends us an iron staple, such as is used in fastening wires on fences, half an inch wide and an inch and a half long, and made of one-eighth inch wire, which a boy seven years old swallowed accidentally and passed about thirty-six hours later, without injury to himself or family.

Oxide of Lead in a Loaf of Bread.—The oxide of lead found in the bread of the Chicago baker has been traced to the stencilling of the name of the miller on the bag containing the flour from which the bread was made, the color having been put on so heavily that it soaked through the cloth.

Child Suicides.—Since January 1st, 62 children, 46 boys and 16 girls, have committed suicide in Berlin. Of this number 24 had attained the age of fifteen, 14 their fourteenth year, 9 their thirteenth, while 7 were only twelve years of age, and 1 had not attained the age of seven. In most of the cases the immediate cause for the act remains a secret, but it is supposed to have been due to exceptional severity on the part of servants or teachers.

A Public Hospital for Norwich, Conn.—Mr. W. A. Slater has given $100,000, and Mr. Wm. W. Backus $50,000, for the purpose of erecting a public hospital at Norwich.

Dr. James H. Fenner, of this city, died on November 6th, aged seventy-eight years.

A Mohammedan Female Physician.—Dr. Razie Koutlairoff-Hanum, a young Mohammedan woman, who was born in the Crimea, recently passed a creditable examination as physician and surgeon at Odessa, and now enjoys the distinction of being the first woman of her creed to engage in the practice of medicine as understood by Western nations.—*Medical News.*

A Hospital in Central Africa.—As an instance of the civilizing work now being carried on in the Congo Free State may be mentioned the Bangala-station hospital, in the upper Congo basin, a little less than a thousand miles from the Atlantic coast. It was erected for the employés of the station, and contains forty beds, besides rooms for convalescent patients.—*Medical News.*

The Death of Dr. Henry J. Bigelow occurred on October 30th, at his home in Newton, Mass. Dr. Bigelow was born in 1820, and became first prominently known through his essay on Orthopedic Surgery, in 1844, for which he received the Boylston prize. Since this he made many important and original contributions to surgical science, the most notable being his invention of the operation of lithotrity. The French Academy of Medicine awarded him a prize for the operation in 1882, although the medical profession, both in this country and abroad, had long before recognized its value and resorted to it. Harvard University conferred the degree of LL.D. upon Dr. Bigelow in 1882, and he was made Emeritus Professor of Surgery in Harvard Medical School. He retired from the practice of medicine in 1886. For a long period Dr. Bigelow was a sufferer from gastric and hepatic disease, and his death was not unexpected by his friends.

The Death of Professor von Nussbaum, of the University of Munich, occurred on October 31st. The deceased was sixty-one years old. He is reported to have been ill for the past year as the result of an attack of influenza.

A Death during Etherization occurred at the Brooklyn City Hospital on October 29th. About four drachms only of the ether had been administered when respiration suddenly ceased, and a few seconds later the heart's action became imperceptible.

The International Medical Congress at Berlin.—The first volume of the "Transactions of the International Medical Congress" at Berlin is already in the press, and will be published in November. In addition to the business part of the proceedings, lists of delegates, members, etc., it will contain the report of the general meetings of the Congress. The work of editing the "Transactions" is in the hands of a committee composed of Professors Virchow, von Bergmann, and Waldeyer. The expenses incurred by the city of Berlin in connection with the recent International Medical Congress amount to some 80,000 marks, so that, of the sum of 100,000 marks voted by the municipality, a balance of $5,000 remains.

The Action of Chloroform and Ether.—Professor MacWilliam, of Aberdeen, has just published the results of a long and elaborate investigation of the above subject, covering a period of two years, in which a new method of studying the heart and blood-vessels has been adopted. His report is presented to the Scientific Grants Committee of the British Medical Association. It is demonstrated that chloroform exerts a direct influence on the heart—depressing its energy, diminishing its tone, and dilating its chambers. Moreover, such a depressing effect may be brought about by chloroform when given mixed with abundance of air (under four per cent. of chloroform vapor), and when the amount of the anæsthetic administered is not sufficient to abolish the conjunctival reflex. The mode of cardiac failure under chloroform is not a sudden arrest of the rhythmic action, but a more or less sudden dilatation and enfeeblement of the organ, causing the rhythmic contraction to be ineffective. Examples are given of death from cardiac failure while the respiration went on for many minutes. The different action of ether as compared with chloroform is strikingly marked. Ether usually causes abolition of the conjunctival reflex and profound anæsthesia with no depression of the heart, or only a brief and trivial one.

Small-pox Extinct in Ireland.—Not a single death from small-pox was registered in Ireland last year. From this scourge, at all events, "the distressful country" appears to be gradually freeing itself. Over the last ten years the average annual number of deaths was one hundred and thirty, but this average is due to the more serious state of things prevailing in the early stages of the decade. Since 1883 there has only been one year in which the number of deaths from small-pox was as high as fourteen. That was in 1887. In 1885 there were but four deaths from small-pox registered in Ireland; in 1886, two; in 1884 there was only one; in 1888 there were three, and, as above stated, in 1889 there was not one.

Glück's Ivory.—Some weeks ago the Cincinnati daily papers reported at length upon an operation by Dr. Otto Juettner. The patient was a girl of fifteen, suffering from necrosis of the left tibia. The necrosed bone was removed and a piece of ivory inserted after the manner of Glück, of Berlin. The papers now report that the limb has been amputated. It is difficult, for one who has seen Glück's cases in Berlin, to understand what other result could have been expected.

Brooklyn Ambulance Surgeons are again in trouble. The last time it was over the accident which caused the death of Mrs. Robinson; now it is the death of a man from fractured skull, who was sent to the cell of a police station with the diagnosis of alcoholism.

A Berlin Professor Mobbed.—Dr. Sonenburg, Professor of Surgery at the University, was mobbed and came very near being lynched recently, because, after his coachman had run over a woman and broken both her legs while driving down Unter den Linden, the professor ordered the coachman to drive rapidly away to avoid recognition. The mob caught the professor's carriage, dragged him out of its door, beat him unmercifully, and might have resorted to more desperate measures, had not a large body of police interfered and locked up the professor.

The Paris Sisters of Mercy.—It is reported from Paris that the Conservatives have commenced a movement for the reinstatement of the Sisters of Mercy in the Paris hospitals. A committee has been constituted to hold meetings in all quarters of Paris, with the object of obtaining the expression of public opinion on the subject. At the meetings politics are to be entirely eschewed, the humanitarian and financial sides of the question being alone treated.

Chloralamide as a Hypnotic.—Dr. G. Generisch has prescribed chloralamide in thirty-two cases, giving thirty grains at night. This dose was generally sufficient to induce sleep within half-an-hour. A more certain effect and a longer sleep was obtained when forty-five or sixty grains were prescribed. He considers chloralamide preferable to other hypnotics, both because it acts more decidedly and because it is less unpleasant to take. It must be remembered that its effect is negative when sleeplessness is due to pain. It is not by any means a dangerous drug, but headache and vomiting may occur after a very large dose. It does not seem to affect the digestion nor the renal functions. The pulse generally becomes softer and more frequent.

Infant Feeding in India.—Mother's milk, says Dr. Macleod, is always considered by the people of India as insufficient to sustain infant life, and various kinds of milk or other artificial kinds of food are suggested by wise friends to replace it. Cow's milk is generally used as infant food by all middle-class people of Bengal. Donkey's milk is largely consumed in rich families. The Mohammedans, whether rich or poor, prefer goat's milk to any other of its kind; while sheep's milk is considered to be the best article of food by the people of the North-western Provinces. Instances have been known where mothers with full breasts and an abundant supply of milk have kept their offspring entirely upon artificial food and thus invoked disease.

An Anencephalic Fœtus Born Alive.—In the *Siglo Medico* Dr. Bernal relates that on August 6th a full-term male child was born at Navalengua which presented the following peculiarities: The whole of the frontal and both parietal bones, and half of the occipital bone were wanting, together with the brain and the optic nerve; the cerebellum was represented by a fungous tissue floating in a large quantity of liquid, black-looking blood, the whole being covered with a very thin pellicle. The face was dark purple in color and the ears were wanting. The eyeballs, nose, and mouth, as well as the rest of the body, were perfectly developed. When Dr. Bernal saw the child, six hours after its birth, it was still alive, but it died two hours afterward, having thus lived eight hours without a trace of cerebral structure. The mother is a healthy, well-nourished woman, aged twenty-three; this was her third pregnancy, the two previous ones having resulted in premature births at the sixth month.

A Novel Feature in Dispensary Service.—One of the latest additions in the way of dispensary service in this city, says the Cincinnati *Medical Journal*, is one of the well-known churches, in which the pastor announces in his bulletin that he has fitted up in connection with his study a completely equipped dispensary for the use of members of his church who desire treatment, and that a well-known eye and ear surgeon, a member of the flock, will render all necessary medical attendance.

The Gastric Juice in Diabetes.—In a long article on the condition of the gastric juice, saliva, and perspiration in diabetes, Dr. Ponomaroff details a number of observations which led him to dispute the assertions of some previous observers—*e. g.*, Heller and Frick, who believed that they had detected sugar in these secretions. With regard to the gastric juice, Dr. Ponomaroff points out that where this is obtained by making the patients vomit, what is obtained is not the gastric juice alone, but an admixture of that with a certain quanty of bile. This generally contains sugar, and therefore vitiates the result. When the œsophageal tube is used and the gastric juice free from bile is obtained, there is, he states, never any sugar in it.—*The Lancet.*

Medical Receptions to Distinguished Guests.—Many of our medical friends from distant places have such good reasons for carrying home with them the pleasant recollections of their visits here, that New York medical men are very properly led to congratulate themselves regarding their reputation for hospitality and good feeling. This is well for both sides—the giver and the receiver. The season is at hand when dinners and receptions are again to be in vogue. Already two such have taken place which have initiated the agreeable service to friends from distant cities. Dr. Landon Carter Gray, of this city, a week ago tendered a reception to Dr. C. Eugene Riggs, of St. Paul, Minn., who came at the instance of the Governor of that State to examine into the asylum systems of New York; and Dr. Seneca D. Powell gave a dinner on Wednesday evening in honor of Dr. William H. Johnston, of Birmingham, Ala. Dr. Johnston was formerly practising here, but years ago left for a new field of labor, leaving behind many personal friends, with whom he served in Bellevue Hospital in good old times, and with whom, at Dr. Powell's residence, he revived the pleasant associations of his younger days.

Obituary.

RICHARD J. LEVIS, M.D.,

PHILADELPHIA, PA.

DR. RICHARD J. LEVIS died November 12th, of pneumonia, at his residence, "Cedar Croft," after an illness of two days. Richard J. Levis was born in Philadelphia, in 1827, and was the son of the late Dr. M. M. Levis. After completing his preliminary education in his native city, he studied medicine at Jefferson College, and graduated in 1848. Dr. Levis was at various periods during his active professional life, surgeon to the Wills Eye Hospital, to the Philadelphia Hospital, the Pennsylvania Hospital, the Jefferson Hospital, and the Philadelphia Polyclinic and College for graduates. From 1877 to 1887 he was President of the Board of Trustees of Jefferson College. He also served as President of the Medical Society of the State of Pennsylvania in 1885, and as President of the Philadelphia County Medical Society in 1885–86. Dr. Levis retired from practice in 1887. An active worker in surgery, he made many valuable contributions to its literature, establishing for himself the enviable reputation of a leading and progressive man.

Reviews and Notices of Books.

THE PHYSICIAN'S COMPANION: A Pocket Reference Book for Physicians and Students. By C. A. BRYCE, M.D. Pp. 164. [Richmond, Va.: *The Southern Clinic.* 1890.

THIS little work contains a vast amount of useful material. It is a vest pocket authority on medicine, surgery, obstetrics, infant feeding, and a thousand other matters of practical value to the physician and student. It is clearly and concisely written by an able editor and author, and, to his credit be it said, is more than a mere compilation, much of the work being written from the stand-point of personal experience.

ESSENTIALS OF REFRACTION AND THE DISEASES OF THE EYE, by EDWARD JACKSON, A.M., M.D.; and ESSENTIALS OF DISEASES OF THE NOSE AND THROAT, by E. BALDWIN GLEASON, S.B., M.D. Illustrated. Pp. 276. Philadelphia: W. B. Saunders. 1890.

THIS work is one of a series of "Saunders' Quiz Compends," arranged in the form of questions and answers. Though necessarily superficial, it is of great value to the beginner in these branches, to the student, to the busy practitioner, and as an adjunct to more thorough reading. The authors are capable men, and, as successful teachers, know what the student most needs. Consequently the ground is not only covered, but the points that need most careful elucidation are made clear and easy. All in all, it is a valuable book.

A COMPEND OF EQUINE ANATOMY AND PHYSIOLOGY, by WILLIAM R. BALLOU, M.D. Illustrated. Pp. 205. Philadelphia: P. Blakiston, Son & Co. 1890.

THIS book fills a long-felt want among students of veterinary surgery, and will be warmly welcomed. The author is a thorough student of comparative anatomy, a clear, concise writer, and, as he is professor of Equine Anatomy in the New York College of Veterinary Surgeons, is authority on this subject. Consequently his work is pleasing and can be relied upon. The illustrations are handsome and clear, and add a great deal to the value of the compend.

PROTOPLASM AND LIFE, Two Biological Essays. By CHARLES F. COX, M.A. Pp. 67. New York: N. D. C. Hodges, 47 Lafayette Place. 1890.

MR. COX is an expert microscopist, and for some years was president of the New York Microscopical Society. In his excellent little work, he gives his views on the spontaneous generation theory, with its relation to the general theory of evolution, and also on protoplasm and the cell doctrine. The book likewise contains an excellent *résumé* of the history of the latter doctrine, and every physician will find both pleasure and profit in reading the essays.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. First Session. Together with the Proceedings of the Meeting for Organization. Edited by WILLIAM PERRY WATSON, M.D. Volume I., 8vo. Pp. 329. Two Illustrations. J. B. Lippincott Company. 1890.

THIS Society, which was organized at Washington on September 18, 1888, now consists of forty-six members, and the volume now presented is a very creditable one, containing twenty-four papers. The president's address on the "Relations of Pediatrics to General Medicine," by Dr. A. Jacobi, of New York, is as characteristically interesting as are all his writings. Dr. Francis Huber, of New York, reports a very interesting case of "Double Empyema," and Dr. Charles W. Earle, of Chicago, an equally interesting case of "General Subcutaneous Emphysema." On "Infant Feeding" are two valuable papers by Dr. A. V. Meigs and Dr. J. Lewis Smith. Dr. J. O'Dwyer reports on a case of "Diaphragmatic Hernia with Operation." The points of interest in this case were the fact that the physical signs were identical with those of empyema; the frequent high temperatures, for which there was no apparent cause except constipation; the futility of operation in diaphragmatic hernia of long standing, in which a large mass of intestines occupy the pleural cavity, and that the point of election for the operation is through the thorax in preference to laparotomy. Dr. Henry Koplik appears with a very exhaustive paper on "Tuberculosis of the Testes in Childhood." Dr. Henry N. Vinburg discusses the subject, always an interesting one, "Practical Points in the Diagnosis and Treatment of Malaria in Children." There are many other valuable and interesting papers, but there are two that deserve especial mention: "A Study of Some of the Bacteria found in the Fæces of Infants affected with Summer Diarrhœa," by Dr. William D. Booker, of Baltimore, and "A Contribution to the Study of Summer Diarrhœas of Infancy," by Dr. John A. Jeffries, of Boston.

INTERNATIONAL ATLAS OF RARE SKIN DISEASES. Editors: MALCOLM MORRIS, London; P. G. UNNA, Hamburg; H. LELOIR, Lille; L. A. DUHRING, Philadelphia. Publishers: Leopold Voss, Hamburg and Leipzig; H. K. Lewis, London; G. Masson, Paris; J. B. Lippincott Co., Philadelphia.

NUMBERS one and two of the "International Atlas of Rare Skin Diseases," comprising the volume for 1889, have been received. The work presents a really attractive appearance. The colored plates are beautifully executed, and the text, printed in German, French, and English, is inviting. This is an excellent feature of a work whose contributors and readers are of different nationality, for descriptions of lesions, and histological appearances especially, lose somewhat in translation, and the finest points are most easily overlooked by those not thoroughly grounded in the foreign tongue. Though intended more particularly for the specialist, this atlas will undoubtedly give assistance to the general practitioner in the study of his anomalous cases.

The numbers so far issued are somewhat disappointing as regards the subjects treated. We had expected such a work to present almost exclusively unique, hitherto undescribed and unclassified, or at least extremely rare, diseases. The plates illustrate lymphangioma circumscriptum, which is indeed quite rare; ulerythema acneiforme, a term employed by Unna to designate a disease beginning with inflammatory erythema, and leading without suppuration or ulceration to cicatricial atrophy; semi-sclerotic lupus of the tongue; sarcoma pigmentosum diffusum multiplex, which, though not common, has been already pictured and described; keratodermia symmetrica erythematosa; angeikeratoma, a rare affection of the hands, illustrated by an excellent plate; and lastly, ulcus molle of the breast, this occurring in a patient having chancroids upon the genitals is not so remarkable when we remember the ease with which auto-inoculation can be produced upon any region of the body. The intent of the work, to illustrate the advances in dermatology, is an excellent and desirable one, but subsequent numbers should differ more widely from former publications. The uniform arrangement of the descriptive text is an especially commendable feature.

Two fasciculi will be issued each year.

The Paris Municipal Council has decided to establish an asylum for women certified by the medical staff of the municipal dispensary to be suffering from venereal disease. This establishment is to be altogether distinct from the S. Lazare prison and from the ordinary penitentiaries.

Society Reports.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, May 28, 1890.

T. MITCHELL PRUDDEN, M.D., PRESIDENT PRO TEMPORE, IN THE CHAIR.

Tuberculous Ulcer of the Tongue.—DR. CHARLES N. DOWD presented a patient, aged forty-two, suffering from tubercular disease, which had first manifested itself about two years ago by a fistula in ano. This was cut, but has never healed. About a year ago the patient began to have a cough, with night-sweats, became weak, and emaciated steadily. He had had no hæmoptysis nor long-continued diarrhœa. About four months ago a large ulcer appeared upon the tongue and the man came to Roosevelt Hospital for treatment. The ulcer was on the middle of the dorsum of the tongue, about one and one-half inch from the lip, and was on a hard base somewhat excavated. Those who saw the patient were at first doubtful whether it was a tuberculous ulcer or one growing on a carcinomatous base. A piece was removed and sent to the laboratory of the College of Physicians and Surgeons for examination. The result of the microscopical examination showed it to be a tuberculous ulcer pure and simple; tubercle bacilli were found in fair numbers. A study of the literature of the subject showed that the dorsum of the tongue was comparatively rarely the seat of tuberculous ulcers, especially the medium line of the dorsum, the base and edges being the most common seats of the disease. The case was interesting also for the reason that the general symptoms were not to be accounted for by the signs present in the lungs. He had emaciation, progressive weakness, a cough, night-sweats, and the fistula—all pointing to tuberculosis, but there were no pulmonary symptoms sufficient of themselves to warrant a diagnosis of tubercular disease.

DR. CURRIER said that he had several years ago seen a number of cases very similar to the one here shown. The burrowing was a very characteristic feature of the disease. The diagnosis, when the ulcer is on the edge of the tongue, is very difficult to make, especially if there happen to be a rough tooth which might be the cause of the abrasion. Neumann always laid great stress on the presence of degenerative changes at the apices of the lungs.

DR. J. S. ELY said that he gathered from Dr. Dowd's remarks that he laid some stress on the fistula as being the primary source of the tuberculosis. The speaker, however, could not well understand how the infection of the tongue could have come from the anal lesion without first the production of a general tuberculosis—in other words, the channel of infection must be through the blood circulation in such a case. He thought it was very probable that the man had miliary tuberculosis in his lung, and that infection occurred through the sputa, some bacilli being swallowed and thus leading to the fistula in ano, others lodging on the tongue and setting up the disease in that place. It would seem rational to assume that the ulcers should be on the tip or the edges of the tongue rather than on the dorsum.

DR. DOWD said that he did not at all wish to convey the idea that the tuberculosis of the tongue came by direct infection from the fistula. He agreed with Dr. Ely as to the probable source of the infection.

DR. PRUDDEN thought it worthy of remark that the diagnosis nowadays generally rests upon the microscopical examination, and this should be made with great care, since we would not be likely to find a great number of bacilli. He had seen three cases in the last four years, and in all of them the bacilli were very few. He thought it was the rule that, in these local lesions, the bacilli were not found in such comparatively large numbers as Dr. Dowd had seen in this case.

Recurrent Carcinoma of the Thoracic Wall.—DR. GEORGE C. FREEBORN presented some specimens with the following history: The patient, a woman, aged thirty-two, had had the breast amputated for carcinoma. One year and a half later she was admitted into the New York Cancer Hospital, having a secondary growth in the cicatrix. The following description is taken from the records of the hospital. "At the site of the right breast there is a white cicatrix extending into the axilla and terminating at the median line of the anterior chest-wall in an irregular cicatrix. Above and to the right of the cicatrix there is an irregular swelling over the third and fourth ribs. The mass is immovable and the skin is not attached to it. In the cicatrix are three small nodules, one lying at the junction of the costal cartilages with the sternum." On July 2d, at the urgent request of the patient, the growth was removed. On July 4th symptoms of effusion into the pleural cavity appeared, and these were markedly increased on the 10th, when the dressings were removed, but no signs of pus could be found. The patient gradually grew worse, the chest symptoms increasing, and she died on October 19th.

Autopsy.—An irregular nodular mass, 15 ctm. in length and 11 ctm. in width, occupied the right and anterior surface of the chest-wall, and projected 3 or 4 ctm. above the level of the skin. Upon opening the thorax the right lung was found compressed backward against the spinal column by the new growth, which was found to fill completely the right thoracic cavity. Numerous secondary deposits were found in the lung, the diaphragm, and the liver. Upon making a vertical section through the tumor the cut surface measured 22 ctm. in length and 11 ctm. in an antero-posterior direction. The growth had pressed inward between the ribs, which were, however, not involved. Microscopical examination showed the new growth to be an alveolar carcinoma. The special point of interest in the tumor was its rapid growth. On July 2d the only visible growth was removed, and in three months this large mass had been produced.

Tuberculosis of the Breast.—DR. JOHN S. ELY presented a specimen removed by operation from a woman about thirty-five years of age. She came to Bellevue Hospital complaining of a hard growth in the neighborhood of one breast which extended toward the axilla. Examination showed one very hard nodule in the breast, and from that a chain of enlarged glands stretching toward the axilla. A diagnosis was made of tuberculosis, and the breast with the enlarged glands were removed together. Examination of the specimen showed the nipple drawn out, bearing evidence to the fact that the woman had suckled children. At the edge of the breast was one large gland which seemed to be the apex of a triangular chain broadening out as it approached the axilla. Microscopical examination of these glands showed them to be tuberculous, the proof of this resting upon the structure and the presence of tubercle bacilli. The question which presented itself was how this process had begun. The woman gave no evidence of tuberculosis in any other part of the body, although a very careful examination was made. In the absence of any other explanation he thought it not improbable that the tubercle bacilli had been absorbed through the nipple into the galactiferous ducts and had been carried to the first glands, thence radiating out, as one would naturally expect. The wound of the operation had healed, and the woman was perfectly well at the time the presentation was made. Dr. Ely said that he imagined that, in some way or other, tuberculous sputum had gotten on to a rag which was used to cover the breast; the bacilli had then been carried into the openings of the galactiferous ducts. In looking up the literature of the subject he had found several cases in which a similar explanation of the causation of the disease had been offered. Verneuil believed this to be a not uncommon mode of infection in cases of tuberculosis of the breast.

DR. PRUDDEN said that he should be disposed to be rather cautious in making so definite an assumption as to the way in which infection had occurred. As any one

knows, an abrasion of the skin may occur without much notice being taken of it. He would prefer to regard the mode of infection suggested by Dr. Ely as the more probable one, though by no means as the only possible one.

DR. ELY said that in cases of local infection there was generally a local manifestation of the disease.

DR. PRUDDEN replied that this was not always the case. There were several cases on record in which there had appeared a local tuberculosis of the skin without the evidences of any injury locally.

Multiple Gummata of the Lung.—DR. R. G. FREEMAN presented some specimens illustrating this condition. There was no previous history of the case. The woman was about thirty years old. At the autopsy there was found a pelvic cellulitis, chronic oöphoritis, and a purulent salpingitis. The lungs were congested. A single round, whitish nodule, about one centimetre in diameter was seen in the lower part of the upper lobe of the left lung just under the pleura. On closer examination three smaller nodules were found near by. These varied in size from one-fourth to one-half centimetre in diameter. On microscopic examination these nodules showed the structure of gummata. The lung tissue showed considerable interstitial pneumonitis. No gummata were found in other organs.

Syphilitic disease of the lung is rare. Many cases are reported as syphilitic pneumonia where the grounds for the diagnosis of syphilis are insufficient, and which are either chronic interstitial pneumonia or tuberculosis. T. Lang, quoting Petersen, gives statistics of one hundred and eighty-three cases of syphilis involving the different organs as follows: Liver, 79; kidneys, 34; spleen, 33; lungs, 11; heart, 10; brain, 9; intestine, 7. Dr. Northrup reported a case to this society about a year ago, in which there were miliary gummata of the lungs, liver, kidneys, and lymphatics in a child nine months old.

Alternate Paralysis due to Multiple Areas of Softening in the Pons Varolii—DR. IRA VAN GIESON reported the following case: Bridget B——, forty years of age, admitted to Charity Hospital July 16, 1889. Her sickness had begun one week before by falling suddenly to the ground. She got up again and was able to walk alone, but was weak in the left leg. On reaching home she became unconscious, and when she recovered from this she was aphasic and had left hemiplegia and right facial paralysis. The mouth was drawn to the left, and there was dribbling of saliva, and deglutition was difficult, especially for fluid. She remained in this condition for the next four months. Examination of the heart and lungs gave negative results. The aphasia became gradually somewhat better. About a week before death a persistent low temperature was noticed, the tongue became coated, and the woman gradually failed and died on December 16, 1889.

Autopsy.—The lungs were œdematous, heart normal, liver fatty in spots, the kidneys showed the changes of a severe atrophic chronic nephritis. There was nothing noteworthy about the other thoracic and abdominal viscera. The pia mater showed a few nebulous striæ over the convexity and there was considerable sub-pial fluid. A section of the pons at its junction with the medulla showed a spot of softening confined to the right pyramid, and two small spots of softening, two to four millimetres in diameter, one situated between the left pyramid and the raphé, and the other in the floor of the fourth ventricle on the right side between the raphé and the nucleus of the sixth nerve.

Microscopical Examination.—Under the microscope these spots of softening were seen to involve the following structures: 1. Nearly the whole of the right pyramid as it passes from the pons to the medulla. 2. A portion of the posterior longitudinal fasciculus of the right side and the right facial nerve bundle just as it turns downward to pass to its nucleus. The right sixth nerve nucleus was not damaged by the softening. The facial nerve bundle was cut off from its nucleus by this minute area of softening, and in sections stained by Weigert's method the degeneration of its fibres (peripheral of the spot of softening) was shown very well. The degeneration of the facial nerve bundle was shown best in sections of the medulla above the spot of softening, in that portion of the genu facialis nearest the raphé, where the fibres are cut transversely as they pass downward and backward to the nucleus of the facial nerve. In such sections the genu facialis was very thoroughly degenerated.

The symptoms in this case corresponded very well with the lesions in the pons. The softening of the right pyramid produced the left hemiplegia, and the destruction of the facial nerve bundle in the pons on the right side caused the right facial paralysis, making the case one of alternate paralysis.

Healed Tuberculosis.—DR. T. M. PRUDDEN presented a specimen illustrating a localized so-called healed tuberculosis of the bronchial glands. The lungs were removed from the body of a woman who had died from pernicious anæmia. There were two little tubercles, one about three millimetres in diameter, and the other half this size. There was also pigment in the lymph nodes at the base of the lungs. Dr. Prudden said that he had presented the specimen because it was a good illustration of this not uncommon condition, and also because it showed how easy it would be to overlook tuberculosis of the lungs. If this lung had not been cut exactly right the lesion would have been overlooked, and it would not have been suspected that it was the source of infection.

Supposed Tuberculous Infection from the Pharynx.—DR. WILLIAM P. NORTHRUP presented some gross specimens and slides illustrating a case of retro-pharyngeal abscess, tubercular meningitis, and calcareous bronchial lymph nodes. They were removed from the body of a boy, three and one-quarter years old. He was returned to the New York Foundling Asylum two weeks before death with no history, except that the nurse said she was afraid it would smother in the night. When brought to the hospital dyspnœa was very marked. Fluids could be swallowed well, but there was a post-pharyngeal swelling crowding the tonsils back out of sight. The swelling nearly filled the pharynx, was tense, slightly red, not tender, and apparently not acutely inflamed. The position of the head was constrained, and there was a moderate swelling on the left side of the neck. The abscess was opened through the posterior wall of the pharynx, and there was a free discharge of pus and disappearance of the tumor. One week before death the temperature gradually rose from 101° to 103° F. The head was rigid, but there was no pain on motion. The child became apathetic; there was moderate dyspnœa, vomiting, constipation, and screaming at night. The operation wound was patulous, the mucous membrane of the pharynx showed enlarged follicles, but there were no tubercles. There was no caries of the spine, the abscess was submucous, and there were no sinuses leading from it. The retro-pharyngeal glands were enlarged, not tubercular. In the lungs were signs of bronchitis, congestion, and œdema. The bronchial glands were large, red, and soft. There were no recent tubercles. On further careful examination in alcohol, while cutting in a series transversely, a long, narrow, chalky mass, flattened up against the trachea, was encountered. This was obviously the remains of a fused mass of broken-down cheesy glands, and might easily have been overlooked. The liver, spleen, kidneys, stomach, and intestines were normal.

Microscopical Examination.—Tubercles and tubercle bacilli were found in the meninges, but none in the abscess-wall or tissues about it.

The interest in this case resides in the fact of the presence of tubercular meningitis with retro-pharyngeal abscess, and the single chalky mass. The speaker said that he had recently presented before this society a case of general tuberculosis having its oldest process in the mesenteric lymph nodes, with no tubercles at all in the bronchial lymphatics. It is the usual experience, in

autopsies on children, to find the oldest tuberculous process in the nodes grouped around the largest bronchi near the tracheal bifurcation and at the root of the lung. When this autopsy was made the question arose as to whether the retro-pharyngeal abscess was not the beginning and the meningitis the ending of the same disease. The bronchial glands appeared normal in the fresh state, and this seemed to rule them out, but the subsequent examination revealed disease. The case seems to emphasize two points, viz., 1, the value of searching for the oldest tuberculous process, and that most carefully. When this specimen was placed in alcohol for further examination it was believed to have been ordinarily well looked over and searched for cheesy centres. It was a matter of surprise, then, when the razor grated against the long, chalky mass; 2, the case also emphasizes the fact, so often observed, that if a very large percentage of cases are carefully examined, the oldest process will be found in the lymph nodes clustered about the respiratory ways.

The Society then adjourned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Annual Meeting, October 28, 1890.

A. S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

The Treasury.—The Treasurer's report showed a balance of $1,714.

Report of the Censors.—This report included that of the counsel for the Society. The number of trials for the illegal practice of medicine—charlatanry—had been constantly diminishing, due doubtless to the steps taken by the Society the past few years in seeing that the law regulating the practice of medicine was duly executed. Yet there were thirteen convictions obtained the past year, and numerous cases investigated. The counsel thought that the recent legislative enactment providing for a board of medical examiners would have a good effect.

Annual Dues.—On motion of Dr. Daniel Lewis the annual dues were continued at three dollars.

Committee on Hygiene.—DR. SIMON BARUCH read the first part of the report, which discussed among other points the question of establishing public baths. After pointing out the health advantages of cleanliness, the best and most practical form of public baths was considered. They must be located in the centre of crowded districts, be modest in order not to be too expensive, so constructed that a cleansing bath could be obtained without much trouble, expense, distant travel, or outlay of time. The shower-bath met these indications better than the plunge- or tub-bath. Less room, less water, less outlay for plant was required than for the tub-bath; it required less time, involved no danger of communicating disease, and so little trouble and expense, and returned such an amount of comfort that even the veriest tramp would cease to go dirty.

The Hygiene of Public Schools.—The second part of the report, dealing with the hygiene of the primary schools, was read by DR. H. D. CHAPIN, who had made several tours of inspection in some of the school districts. He found most of the primary schools greatly overcrowded, individual classes much too large, many benches to which there was no desk, insufficient light (requiring gas); positively bad ventilation; odor of water-closets in the school-rooms; no place to hang clothes; in short, the condition in many instances was about as bad as it well could be.

Prize Essays.—The committee (Dr. Bangs, Chairman) reported that three essays had been received in competition, and it was decided to award the prize of one hundred dollars to the author of the essay entitled "A Physiological and Therapeutic Study of Hydrastis Canadensis." It proved, however, that the author of this paper was a Philadelphian, not a member of the Society, while the object in offering the prize was to stimulate scientific research among the members. The comitia minora was given power to act.

Change of the By-Laws.—The proposed changes in the by-laws, reducing the initiation fee from five to two dollars, and making the editor of the Directory a member of the comitia minora, was carried.

Officers Elected.—*President*, Dr. Orlando B. Douglas; *Vice-President*, Dr. Arthur M. Jacobus; *Secretary*, Dr. Charles H. Avery; *Assistant Secretary*, Dr. William E. Bullard; *Treasurer*, Dr. John S. Warren; *Censors*, Drs. George E. Abbott, Alexander S. Hunter, William McLaury, Richard Van Santvoord, and S. O. Vander Poel.

TRI STATE MEDICAL ASSOCIATION.

Second Annual Meeting, held at Turner Hall, Chattanooga, Tenn., October 14, 15, *and* 16, 1890.

J. B. COWAN, M.D., PRESIDENT, IN THE CHAIR.

Report of a Case of Cancrum Oris, or Gangrenous Stomatitis, by DR. W. P. MCDONALD, of Hill City, Tenn. The patient, white, was four years of age; first seen on August 5th. Found with some fever, tongue coated brown, with red edges, surface more or less furrowed or full of cracks in the brown coat, general appearance indicating a very low state of health. Bowels were inclined to be too loose, and abdomen seemed to be somewhat distended and tympanitic.

Fourteen days after seeing the child for the first time the mother was found with nearly the same symptoms as the child first presented. The child was still improving, but complaining of a sore mouth. On examination he found several small ulcers on the right side of the mouth, with a general inflammatory appearance of the gums and whole mucous lining of that side of the buccal cavity, with some bleeding from around the teeth. The trouble at first seemed to yield to a wash of chlorate of potassium and creosote, but on the seventeenth day of illness the inflammation increased rapidly, the whole cheek and side of the face appearing very much swollen, and the inside was fast becoming dark and gangrenous. August 24th a small dark spot, about the size of a penny, made its appearance externally, just at the right wing of the nose. This rapidly enlarged, involving the wing of the nose and in proportion the tissues on either side of the central spot, and on August 25th it had involved the right side of the nose up to the inner canthus of the eye, also the upper lip to the median line, and had spread rapidly on the cheek, reaching a point where the zygomatic muscles cross the superficial portion of the masseter. The teeth on this side became loose and dropped out, both above and below, indicating deep-seated trouble, possibly involving the maxillary bones.

According to authorities, cancrum oris more frequently occurs as the sequel of other diseases than *per se*. The statistics of Rilliet and Barthez show that out of 98 cases of this disease 41 of them were following measles, 5 scarlet fever, 6 whooping-cough, 9 intermittent fever, 9 typhoid fever, and 7 mercurial salivation.

To draw a conclusion in the case by these statistics, and by watching the case closely from the first, Dr. McDonald asks: "Did this occur as the sequel of the typho-malarial fever which I diagnosed at the commencement of the sickness (remembering the poor state of health the child was in to begin with)? Or, was it the result of mercurial salivation produced by the mercury given at the beginning, and followed two days after by the syrup of the iodide of iron?"

DR. E. T. CAMP, of Gadsden, Ala., once saw a case similar to the one reported, which he pronounced gangrena oris, the whole of one cheek being destroyed. There was evidence of mercury having been taken in the early part of the illness of the patient. The case terminated fatally within a few days. The patient was four

or five years of age, and of the lower class. He thought the gangrene was a result of mercurial poisoning which was administered during the early part of the illness.

On all Sides a Learned Doctor. — Dr. James E. Reeves, of Chattanooga, made an earnest plea for higher medical education, stigmatizing cheap medical colleges with no facilities for imparting instruction as the greatest stumbling-blocks in the way of true progress.

Fracture at Elbow-joint.—Dr. Andrew Boyd, of Scottsboro, Ala., reported several cases. He said after reduction there are but two methods of treatment of fracture at the elbow-joint, viz., the extended or straight, and the flexed position. The author thinks the flexed position the better, for the reasons: 1. That in all cases we fear anchylosis, and it is much better to have a flexed anchylosed arm than a straight one. The comparative use in each is apparent. 2. When the splints have remained twenty-five to thirty days, the arm is atrophied and almost helpless; it is therefore easier to overcome the flexor muscles than the extensors, and a patient can extend an arm with more ease than he can flex it.

Expert Testimony.—Mr. Sydney B. Wright, of Chattanooga, read a paper and drew the following conclusions:

1. That the circumstances from which the conclusion is drawn should be fully established. 2. That all the facts proved should be consistent with the hypothesis. 3. That the circumstances should be of a conclusive nature and tendency. 4. That the circumstances should, to a moral certainty, actually exclude every hypothesis but the one propounded to be proved. 5. That mere circumstantial evidence, unless the chain of circumstances is absolutely complete, ought in no case to be relied on where direct and positive evidence which might have been given is withheld by the adverse party.

Case of Neurosis.—Dr. W. G. Bogart, of Chattanooga, reported a case in detail.

A few Remarks on the Fevers of Middle Tennessee and their Treatment.—Dr. J. C. Shepard, of Winchester, Tenn., said the great malarial period extended from the settlement of the country up to about 1840, during which all the fevers of the country were malarial and periodical. Commencing about 1840, the great typhoid period extended until near 1860. During this period malarial fevers were almost, if not entirely, unknown, and typhoid was dominant everywhere and every case was typical. About 1860, or a little sooner, there was a return of malarial fever, but in connection with typhoid fever. This was the typho-malarial period, which continued for fifteen or twenty years. About 1880, or somewhat earlier, the characteristic symptoms of both typhoid and malarial fevers commenced to disappear, and have continued until now. This is the period of *fusion*. We now have only one fever, which is a continued fever, not typically typhoid, nor malarial, nor even typically typho-malarial. There is not now, nor never was, a continued malarial fever, *per se*, in Middle Tennessee.

A Contribution to the Study of the Continued Fevers of the South.—Dr. L. P. Barber, of Tracy City, Tenn., said the continued fever of the South, its nosology and etiology, forms a subject now justly attracting much attention, a subject on which much is yet to be learned, and over which the medical world is considerably at variance. Only a close and accurate study of the disease by competent observers, in many and different localities, and a thoughtful comparison of these observations, with free discussion, will advance our knowledge of its nature, and shed light on the vexed question of its cause.

Silicate of Soda, Some New Methods of Use in Surgery, by Dr. George A. Baxter, of Chattanooga. The paper chiefly had reference to a silicate jacket made by a new process of hardening the silicate, which, it is claimed, is an improvement on all other jackets, inclusive of the plaster-of-Paris, leather, woven wire, or watch-spring, now in use for the treatment of spinal injuries or disease. It is lighter, equally durable, equally immobile when on, and capable of removal at any time, and of adjustment to any lateral pressure desired.

Abscess of the Liver.—Dr. Richard Douglass, of Nashville, said that abscess of this organ is the result of absorption of some morbid product from the intestine, or from some ulcerated surface. The bacteria enter the circulation and are deposited in the liver, where abscess is formed. This may be with a normal temperature. He said that phagocytosis may furnish an explanation of the occurrence of abscesses in the various tissues and organs of the body, including the liver.

Uterine Fibroma.—Dr. J. B. Murfree, of Murfreesboro, Tenn., said a uterine fibroma is a morbid growth developed within the walls of the uterus, and is composed of muscular-fibre cells, fibro-plastic material, and cellular tissue, and is due to a perversion of nutrition. It is non-malignant and homologous in its structure. Pain, hemorrhage, rectal and cystic irritations, indigestion, dropsy, and exhaustion are some of its results. They threaten life by hemorrhage, inflammation, septicæmia, and pressure. The treatment is divided into four methods: 1, Symptomatic; 2, general (by medicines); 3, electrolysis, and 4, surgical.

Laparotomy *versus* Electricity in Ectopic Pregnancy.—Dr. Wathen, of Louisville, Ky., said that electricity, the only fœticidal means now recognized as orthodox by physicians who practise destroying the life of the fœtus in ectopic pregnancy without laparotomy, is no longer used for this purpose where the pregnancy has continued beyond three and a half or four months, and is seldom used after the third month. At this time the fœtus cannot be killed except by electro puncture, and the complications and the deaths consequent upon this practice have been so numerous that the most radical advocates of electricity are afraid to introduce the electrodes into the gestation sac. The use of electricity in extra-uterine pregnancy is practically confined to the United States, and while it is advocated by men of recognized ability and learning in obstetrics and gynecology, he was constrained to believe that very soon it will have no support. Dr. Wathen then entered into an argument in favor of laparotomy, for the difficulty and sometimes the impossibility of diagnosticating extra-uterine pregnancy in the early months is so manifest to experienced physicians that it would be ridiculous to claim that in all these cases pregnancy existed; while in the cases where laparotomy is done a diagnosis may positively be made by seeing the embryo or the chorionic or placental villi.

Hypertrophy of the Tonsils.—Dr. T. Hilliard Wood, of Nashville, Tenn., said with reference to operative treatment, excision by the tonsillotome is most popular, although the writer prefers the bistoury and vulsellum forceps. The operation is rendered painless by applying to the tonsil a solution of cocaine, and by injecting, with a hypodermic syringe, a few drops of the same solution into the substance of the gland. As a rule, general anæsthetics should not be used.

Case of Remarkable Injury, with Recovery, by Dr. E. A. Cobleigh, of Chattanooga.—A heavy drill, while being lowered into a well by a rope, slipped from its fastening, and falling a distance of forty-five or fifty feet struck the man on the back of the neck and ploughed through the tissues, to emerge from the right side of the chest, there protruding about eight inches, absolutely impaling him. He stepped down from the platform, supporting himself against the side of the well, and called on a fellow-workman to pull out the drill. A stalwart negro with both hands tried to pull out the drill, but failed. He mounted the platform and tried again by a steady pull, which did not budge the impaling instrument; and in his excitement to get the thing out, he gave it that to-and-fro motion, with the powerful leverage of the long handle, which one sees resorted to in pulling posts out of the ground. At this procedure the drill loosened and he extracted it from above, just the reverse to its direction of entry.

The patient was now placed in a bucket, very imper-

fectly fastened to the well-rope with a noose passed around him, and holding himself mostly by his own efforts, was drawn to the surface, placed in a chair, and conveyed to the work-room adjoining the office. The patient is twenty-eight years of age, stands five feet and eleven inches high, and weighs one hundred and eighty-five pounds, having a magnificent physique.

Examination developed the fact that the wound of entrance was situated one inch and a half to the right of the spinous process of the fifth cervical vertebra, just at the point where his neck began to broaden toward the shoulders, and the drill had only missed the spinal column by a hair's-breadth. Passing downward and very slightly foward and to the right, leaving a rather smooth opening oval in form from above (perpendicularly), with somewhat inverted edges, it resembled the old-fashioned wounds of entrance of round shot, not very large—not so immense as one would expect from the size of the wounding instrument, yet sufficiently so for the cervical muscles and fascia to show plainly in the wound, especially if forcibly opened. The shape of the wound made it close like a valve, yet air was entering and being expelled with a pink froth at nearly every respiratory effort, though there was no considerable hemorrhage.

From here the drill passed into the chest cavity between the scapula and the clavicle, at its very apex, without damage to either of these bones, impinging on the third and fourth ribs, which were both fractured from behind right in the line of the wound—evidently the fragments being parted as by a wedge while the drill was *in situ*—then passing down on the anterior and outer surface of the fifth and sixth ribs without injury to either, and emerging by a great gaping and ragged wound, with much eversion of its edges, just at the inferior border of the latter rib and over the interspace below, its centre being at the time of the examination two inches below and one and a half inch to the right of the nipple. There was only moderate bleeding from this wound, into the opening of which Dr. Cobleigh readily introduced the tips of three fingers, and no air was escaping here. The skin and subcutaneous tissues seemed to be so absolutely deadened by the magnitude of the injury sustained as to have entirely lost all their normal elasticity. He passed two fingers up the tract of the wound their full length, entering the pleural cavity with their tips under the broken ends of the lower fractured rib, which could be distinctly felt. Everything felt torn and indefinite, the ends of the broken bone easily removable, but he was not able by touch to satisfy himself with any degree of reasonable force whether the subjacent lung surface was injured or not, though he thought it was. From top to bottom of the wound, in its entire length, it measured in a direct line at that time fourteen and a half inches, and the patient must have had buried in his anatomy fourteen and a half inches of steel an inch in diameter.

On withdrawal of the fingers the wound closed by collapse of its sides and prevented any profuse degree of hemorrhage externally. There was very intense pain and a marked degree of shock, as shown mainly by the pulse, the mind remaining clear throughout. The integument, however, was quite clammy and the patient complained a great deal of chilliness, without any pronounced rigor. There was extreme rapidity and difficulty of respiration, some gasping, and Dr. Cobleigh was strongly of the opinion that he would die in a short time, especially as he found the signs of depression increasing fast—the pulse losing all tone, flickering, irregular, intermittent, and the mucous surfaces blanching.

Dr. Cobleigh regards the case as one of remarkable recovery, fit to be recorded along with the celebrated "crow-bar" case of Maine, and the later case of abdominal perforation by a railroad coupling-link which happened a few years ago in Kentucky.

Urethral Stricture and its Complications.—Dr. Gibson, of Birmingham, Ala., said that if he were compelled to use only one instrument in the cure of all strictures, he would use the sound. He believed that when it was properly used there were very few strictures that could not be relieved, and better so by it than any other means; and that the only stricture for which it was necessary to invoke the aid of the urethrotome was the old, tight, and unyielding stricture in the pendent urethra and meatus.

Notes on Apostoli's Method of the Treatment of Uterine Fibroids.—Dr. P. S. Haves, of Chicago, said that one of the best demonstrated facts in the Apostoli operation was the arrest of all uterine hemorrhages excepting those cases that are due to the puerperal condition. All observers unite in recognizing that the positive pole is the one to be connected with the intra-uterine electrode. To the thinking physician the query is, why the positive? And the answer comes that in electrolysis, especially when the electrolyte—the fluid undergoing electrolysis—is blood, the clot formed around the positive pole is small and dense, while that around the negative pole is large and flabby. Knowing, as we do, that oxygen, chlorine, and the acids are liberated at the positive pole when electrolysis is performed on the tissues of the body, and also knowing that hydrogen and the alkalies are liberated around the negative pole, we have only to apply our knowledge of the action of the acids and alkalies, respectively, on the blood to explain the observed phenomena.

Officers for 1891.—*President*, Dr. Robert Battey, of Rome, Ga.; *First Vice-President*, Dr. E. T. Camp, of Gadsden, Ala.; *Second Vice-President*, Dr. Richard Douglas, of Nashville, Tenn.; *Third Vice-President*, Dr. D. H. Howell, of Atlanta, Ga.; *Secretary*, Dr. Frank Trester Smith, of Chattanooga, Tenn.; *Treasurer*, Dr. B. S. Wert, of Chattanooga, Tenn.

On motion the Association adjourned, to meet in Chattanooga, Tenn., date to be decided on.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE HARVEIAN ORATION AT THE COLLEGE OF PHYSICIANS—THE RELATIONSHIP OF PHYSIOLOGY TO MEDICINE—ABDOMINAL SURGERY—THE REVIVAL OF THE OXFORD MEDICAL SCHOOL.

London, October 25, 1890.

The Harveian oration for this year at the College of Physicians was delivered last week by Dr. James Andrew, physician to St. Bartholomew's Hospital. After reading a brief extract from the register of Merton College, Oxford, which had been hitherto unnoticed, but which had been brought before Dr. Andrew by the present warden of Merton College, and which fixed the date of Harvey's admission to the wardenship, Dr. Andrew observed that, apart from Harvey's great discovery, his writings contained many things worthy of consideration. We might find in them no doubtful indications of the wise and prudent advice he would have given us for the abatement of some, at least, of the evils under which our profession labored at the present day. Dr. Andrew said he did not hesitate himself to place in the first rank of these ills the enormous amount of so-called medical literature. There was one publication which he regarded with especial horror—the "invaluable" *Index Medicus*. He found that the volume for 1889 contained the names of not fewer than 13,870 contributors, representing not less than 20,000 contributions to medical science during the year.

Alluding to a common reproach cast upon our profession that we pretend to be, and are not, scientific, he proceeded to discuss the relation of medicine to physiology. One of the best definitions of medicine, he said, was that which described it as "applied physiology." If we failed to attain to that ideal, if we were compelled

daily to act upon probabilities in place of scientific certainties, then the blame must rest at least as much on the physiologist as on ourselves; he failed to supply us with the knowledge which we required and which he alone could give us. In saying this, however, Dr. Andrew said he had no wish to ignore the splendid services which physiology had rendered to medicine. He pointed out also that the relationship between them had greatly changed during the last two hundred and fifty years. Such change was a necessary consequence of the progress made by physiology. In Harvey's time, in any classification of the sciences, physiology might have been regarded as a department of medicine; now the reverse would be the case. Physiology by slow degrees had come to rely more and more on purely scientific modes and instruments of research, and to apply them to matters which could be brought to the test of direct experiment. Medicine, on the other hand, had no choice but to remain, so far as it had a scientific side, a science of observation, for anything like effective investigation of the matters with which it dealt, by direct experiment, was impossible. The task of employing physiological results to explain clinical facts or to form the basis of rational treatment became harder than ever. In illustration of these remarks Dr. Andrew referred to some recent experiences of his own in the treatment of hæmoptysis. Quoting from a standard text-book a long list of remedies supposed to be useful for hæmoptysis, he said it was disappointing to find that the drugs which had been proved by direct physiological experiment to be at any rate likely (on the theories of those who proposed them) to be of service in the treatment of hæmoptysis, did not come more distinctly to the front. Physiology, however, was at last overcoming the great difficulties in the way of accurate determination of variations in the pulmonary circulation, and of their causes. The orator then detailed the results of some recent investigations on the subject by Dr. Bradford, Dr. Dean, and Mr. George Henry Lewes.

The Medical Society commenced work on Monday evening last, when the President (Mr. Knowsley Thornton) gave an address on "Abdominal Surgery, Past and Present." Ovariotomy, he said, had been the starting-point of abdominal surgery, and the methods of procedure had been progressively improved until the operation had been shorn of the mortality which in former years made surgeons look upon it as an operation only to be resorted to *in extremis*. The first great improvement was the abandonment of the clamp, and the general use of the ligature was promptly followed by the adoption of the Listerian method, with such success that a powerful impetus was given to the surgical treatment of diseases of the other abdominal viscera. Every surgeon of any eminence had improved his results enormously by adopting the Listerian method, and then, having learned how to be surgically clean, he by and by found out for himself other means of attaining the same end by methods differing more or less from those of Lister. The drainage-tube and flushing the peritoneum with pure water both removed the pabulum which was necessary for the development of pathogenic micro-organisms. As recently remarked by Erichsen, Lister aimed at keeping these micro-organisms out of the wound—an accomplishment which Lawson Tait seemed to think hardly possible. For his own part, he did not doubt the feasibility of the plan, for his own results, with a limited use of the drainage-tube and practically none of flushing, had been at least equal to those of the surgeons who practised newer methods. He had himself always continued to use the original Listerian methods, and he claimed that his results were in a sense more valuable than those of other operators because he had all along steadily adhered to one method. When a surgeon was constantly changing his methods, it was impossible to say whether an improvement in his results was due to his greater experience or to the change of method.

A noteworthy incident in medical education is the revival of medical education at the University of Oxford. There have always, it is true, been a certain number of students who proceeded to Oxford to graduate in medicine. Hitherto, however, they have been students who, having taken a B.A. degree at Oxford (as required by the regulations), subsequently came to London to pursue their medical studies—returning to Oxford only at intervals to pass the stated medical examinations. In most cases, indeed, an Oxford student received his entire medical education in London. Naturally this did not tend to increase the popularity of the Oxford degree. The regulation requiring students to first graduate in arts was not so severe a restriction as might be supposed, inasmuch as, for several years past, science has (as at Cambridge) formed a division of the B.A. degree, and students can obtain the degree by passing almost all their examinations in scientific subjects, among these being physiology. The same latitude in a choice of subjects for the B.A. degree prevails at Cambridge, where, as at Oxford, there is no separate degree in science. (At Cambridge, though, it is not essential to graduate first in arts.) As a medical school, Oxford has long lagged in the rear, and the number of aspirants for its medical degrees have been proportionately small. It is not that its medical examinations are unduly stringent, for they are reputed to be much less severe than those at Cambridge. It is, therefore, gratifying to find that efforts are now being made to put Oxford on a level with Cambridge as a centre of medical education. Additional teaching has been provided, the examinations have been modified, and the time is apparently not far distant when an Oxford student will be able, if he wishes, to obtain his entire medical education at his *alma mater*.

WHICH WAS THE FIRST POST-GRADUATE SCHOOL IN NEW YORK?

To the Editor of the Medical Record.

Sir: In answer to your correspondent "Secretary," in the last number of the Record, I desire to say that the claims of the New York Post-Graduate Medical School to be the first one instituted in New York rest upon the following facts: Seven members of the Faculty of the University of the City of New York resigned their positions at that institution on April 4, 1882, "for the purpose," as they stated, "of founding a Post-Graduate Medical School." They immediately began the work of organization, and on August 19th of that year issued their "Announcement" in the Medical Record, and previously addressed a circular to the profession throughout the country. They commenced their sessions in the College of Pharmacy on November 6, 1882, but they had previously formally, opened the college at Chickering Hall, on November 4, 1882.

There was an attempt made to organize a *Poliklinik* in New York in 1881. The writer of this note, among many others, was invited to join in that undertaking, but the attempt was a conspicuous failure for various reasons. The plan was not at all as complete as that subsequently made and carried out by the Post-Graduate Medical School. The undertaking was also handicapped by the name, afterward spelled *poly*, an orthography which made its title neither good Latin, German, nor English. At any rate, not until the Post-Graduate School was well organized, and after its organization had been discussed far and wide, in both lay and professional journals, was the abandoned plan of the *Poli-* or *Poly-* clinic taken up by new men, using the very schemes handed them by those who had failed in a former attempt, one of whom was with us in the Post-Graduate organization. If intentions and abandoned enterprises count, then is the Post-Graduate School still older, because the founders of this institution were made a Post-Graduate Faculty in the University of the City of New York in 1875, and

gave courses of instruction to graduates there. They gave up their name, however, some two years before they resigned to found the Post-Graduate Medical School.

The founders of this latter-named institution, under a hostile fire of malevolent criticism, had burned their bridges and were in full advance, without aid or sympathy from the profession in New York, into the undiscovered country of instruction in medicine for graduates, fully five months before the actual founders of the Polyclinic, with a formidable backing of lay and professional supporters, mustered up the courage to announce that they were coming well in the rear.

The Post-Graduate Medical School hence claims to have originated a plan, and to have been the first to actually announce the formation of an organized system of clinical and laboratory instruction for practitioners in New York. Besides this, we have maintained our rightful position as leaders, by establishing a *bona-fide* hospital as an integral part of our institution. Some years later the same idea was taken up by the Polyclinic.

Yours respectfully,

D. B. St. John Roosa, M.D.

November 4, 1890.

MIXED NARCOSIS AND OPIUM IDIOSYNCRASY—MORPHIA AND ATROPIA BEFORE GIVING ANÆSTHETICS.

To the Editor of the Medical Record.

Sir: In some medical societies there are members who are continually "bobbing up" with a "case" which the paper, remarks, or something else, "has reminded them of."

Kindly indulge the writer along the same line in the brief detailing of an experience which, at the time of the occurrence, was thought to bear directly upon the question asked in your leading editorial of November 1st.

Miss ——, aged about twenty, dark complexioned, black hair and eyes, good physique, well nourished, was given an anæsthetic for the removal of hæmorrhoids.

At the hour of operation she was quiet, not nervous, cheerful—in fact, a case wherein the one who gives the anæsthetic congratulates himself upon having a case that is not likely to give him trouble. Twenty minutes before giving the anæsthetic, one-eighth grain morphia and one two-hundredth grain atropia were given hypodermically. A folded napkin was used as an inhaler and A. C. E. given. When complete anæsthesia was nearly reached, the respiration became feeble and then stopped. Lowering the head soon restored the respiration. Another attempt produced the same results, which yielded to the same respiratory tactics. Efforts were made again and again with the A. C. E., but, as the danger symptoms were more serious, chloroform was tried, and a very few drops not only arrested the respiration, but the lips became cyanosed and radial pulse very weak. Artificial respiration and hypodermics of brandy restored the circulation, and breathing became normal again. It was now noticed that the patient was insensible to everything excepting the itching of nose and face, and so, although she was sufficiently conscious to rub the nose and face, the sphincter was stretched, tumors removed, and stumps cauterized, without pain or struggling. Occasionally a few breaths of A. C. E. were given, but at no time was she completely anæsthetized.

It may be urged that the operation was done in what is called the danger stage of anæsthesia, but faithful efforts were made for forty-five minutes to get beyond, safely, into complete anæsthesia, without success.

The patient's recovery was rapid and satisfactory, but the case evidently contained a lesson for physicians, and the lesson that seems to be taught is, be careful that no idiosyncrasy exists in your patient against the use of morphia before you give it for anæsthesia; and in absence of evidence either for or against, do not give it.

J. L. Tracy, M.D.

1708 Adams Street, Toledo, O.

MORPHIA AND ATROPIA BEFORE ANÆSTHETICS.

To the Editor of the Medical Record.

Sir: I have read with deep interest the article in your issue of November 1st on the hypodermatic injection of atropia and morphia previous to the administration of anæsthetics. As there is considerable testimony adduced in that article adverse to this procedure, I cannot restrain the impulse to give my testimony in its favor. I offer it because I am certain that my experience with the method extends over more time than that of any other man in this country. I believe I can also truthfully say that it is greater, because continued so long and resorted to always for operations of any gravity or duration; while, so far as I can learn, the method is only occasionally resorted to. I learned the advantages of the method from Bernard's "Leçons sur les Anesthésiques," published in 1875, and immediately adopted it. In 1876 I presented its claims to the profession,[1] and again in 1879.[2]

In giving my testimony I appreciate fully how trifling is any individual experience with anæsthetics, unless under very exceptional circumstances. Mine is not even that afforded by a metropolitan hospital, yet it has been uniformly not only favorable to the method, but such as to give me the firmest conviction that decided advantages result from the combination of narcotics and anæsthetics. Emotional disturbance is allayed, a far smaller amount of the anæsthetic is required, the patient remains quieter under the influence, vomiting afterward is markedly less, and the pain of the operative procedures soothed or abolished. As to danger, I have never seen any. Three times I have had most serious symptoms under anæsthetics, in neither of them was this plan followed. In one patient, the worst case of the three, the one most difficult to rescue, I gave the same anæsthetic again about three weeks afterward, and without a single bad symptom, having preceded the administration with a hypodermatic injection of morphia and atropia.

I may say that I always use as an anæsthetic the A. C. E. mixture.

I refer your readers to the articles above alluded to for arguments and further testimony. I could not permit the opportunity to pass without a few words in favor of what I believe to be the most valuable modification of artificial anæsthesia, and would ask from all a careful consideration of the nature and character of the evidence given in your editorial before they reject this method.

J. C. Reeve, M.D.

Dayton, O., November 7, 1890.

[1] American Journal of the Medical Sciences, April, 1876.
[2] Transactions of the Ohio State Medical Society.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 2 to November 8, 1890.

Crosby, William D., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, granted leave of absence for four days. S. O. 259, par. 2, A. G. O., Washington, D. C., November 5, 1890.

La Garde, Louis A., Captain and Assistant Surgeon. Detailed as member of board for duty in connection with the World's Columbian Exposition, and will report by letter to Major Clifton Comly, Ordnance Department, member of the board of control and management of the Government exhibit to represent the War Department. S. O. 260, par. 1, A. G. O., Washington, D. C., November 6, 1890.

Bache, Dallas, Lieutenant Colonel and Surgeon, Medical Director Department of the Platte. Granted leave of absence for one month. S. O. 82, par. 6, Department of the Platte, Omaha, Neb., November 1, 1890.

WAKEMAN, WILLIAM J., Captain and Assistant Surgeon. Relieved from duty at Fort Bidwell, Cal., to take effect on the final discontinuance of that post, and will then report in person to the commanding officer at Fort Huashusa, Ariz. Ter., for duty at that station. S. O. 254, par. 12, A. G. O., Washington, D. C., October 30, 1890.

ARTHUR, WILLIAM H., Captain and Assistant Surgeon. Relieved from duty at Fort Bayard, N. M., and will report in person to the commanding officer at Fort Grant, Ariz. Ter., for duty at that post, relieving First Lieutenant William B. Banister, Assistant Surgeon. S. O. 254, par. 12, A. G. O., Washington, D. C., October 30, 1890.

BANISTER, WILLIAM B., First Lieutenant and Assistant Surgeon. On being relieved by Captain Arthur, will repair to this city and report for duty to the commanding officer at Washington Barracks, District of Columbia. S. O. 254, par. 12, A. G. O., Washington, D. C., October 30, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 8, 1890.

EDGAR, J. M., Passed Assistant Surgeon. Ordered to the San Francisco, November 10, 1890.

SPRATLING, L. W., Assistant Surgeon. Ordered to the San Francisco, November 10, 1890.

WHITE, CHARLES H., Medical Inspector. Ordered to the San Francisco, November 10, 1890.

SCOTT, HORACE B., Passed Assistant Surgeon. Placed on the retired list October 31, 1890.

ASHBRIDGE, RICHARD, Passed Assistant Surgeon. Surveyed and sent to hospital, Philadelphia, Pa.

KENNEDY, R. M., Assistant Surgeon. Detached from Navy Yard, League Island, and ordered to the Training-ship Richmond.

ATLEE, L. W., Assistant Surgeon. Ordered to the Navy Yard, League Island, Pa.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 8, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	27	10
Scarlet fever	58	11
Cerebro-spinal meningitis	3	3
Measles	131	13
Diphtheria	81	19
Small-pox	1	0
Varicella	3	0
Pertussis	3	0

Are Vaginal Injections in Labor Useful?—Drs. Glöckner and Keller have recorded some interesting statistics observed in an obstetrical clinic in Berlin, bearing upon the question of antiseptic injections during and after labor. The cases taken were all of a normal character, their number being between four hundred and five hundred. These were divided into two series. In the first series the external genitals were cleansed, at the commencement of the labor, with soap and a solution of perchloride of mercury, and a vaginal injection given of ordinary water, and sometimes a similar injection after the labor was over. In the second series the external genitals were cleansed as before, but no injections were given. In both series the hands of the accoucheur were cleansed with a solution of corrosive sublimate of the strength of 1 to 1,000. There was no case of serious puerperal disturbance in either group. The cases of slight and transitory fever numbered six per cent. in the first group and only 0.84 per cent. in the second group. From this it would appear that intra-vaginal injections of antiseptic fluid, or even of plain water, in ordinary labors are quite useless, if not worse than useless. As regards the external ablution, however necessary in the case of the class of women who are attended in the obstetric departments of German hospitals, we cannot recommend English accoucheurs to adopt the practice. It is not unlikely that English women would resent it as an impertinent interference.—*Hospital Gazette.*

Gastro-Hysteropexy.—M. Pozzi performs hysterorrhaphy after certain modifications introduced by himself. The uterus having been exposed and brought forward till it touches the abdominal wound, a continuous silk suture is passed through the posterior sheath of the rectus close to its cut edge on the left side, the peritoneum, and the uterus in the middle line, and hence to the peritoneum and sheath of the rectus on the right side of the wound. The uterus is transfixed three times in this manner, the needle passing a short distance under the serous coat, further in the uppermost than in the lower points of transfixion. The suture is finally tied and cut short. The more superficial layers of the abdominal wound are sutured separately. M. Pozzi described two cases of retroflexed uterus bound down by adhesion where this operation was performed. The first case was a complete success. Alexander's operation had been already attempted without giving relief. In the second there was suppuration of the lower part of the wound, which the operator attributed to the fact that the silk suture had not been sufficiently boiled. The uterus in each case remained firmly fixed to the parietes. M. Pozzi prefers the continuous sunken suture to the interrupted suture passed outside the integuments, and removed on about the fifteenth day after operation, as practised by Leopold, who considers that a relatively loose adhesion is sufficient.—*The British Medical Journal*, September 20, 1890.

A Warbling Girl.—A lady writing to the *British Medical Journal* says that she recently heard a young girl of fourteen years "whistle," as her people called it, but "warble" it really was, for she kept her mouth slightly open, and the lips merely trembled, the notes being formed in the throat, the centre of it working as a bird's does when singing, and the sounds produced were exactly like those of blackbirds and thrushes. She warbled several airs to pianoforte accompaniments faultlessly and most beautifully modulated; and so powerful were the notes that her grandmother, who was excessively deaf, could catch every one, without the slightest effort, in another room a little distance off; in the same room some notes were deafening, when she poured them out at the *forte* parts. She had been self-taught entirely from "whistling" to her dog and sitting in the window to "warble" to the birds.

The Number of Retail Liquor Dealers in the United States, according to the official returns of the officers of the internal revenue for the year ending May 1, 1890, was 185,868, or 1 liquor-dealer to every 275 inhabitants, on the basis of the census of 1880. In New York there was 1 retail dealer in distilled liquors to every 150 inhabitants; in New Jersey, 1 to 175; in Ohio, 1 to 230; in Pennsylvania and Massachusetts, 1 to 400; in Indiana, 1 to 325; in Delaware, 1 to 160, and in California, 1 to 75. The average in all the States which have general license laws is 1 dram-shop to 250 inhabitants. In Maine there is 1 retail dealer in distilled liquors to every 750 inhabitants; in Vermont, 1 to 820; in Iowa, 1 to 520, and in Kansas, 1 to 800.

Medical Journalism in Russia.—Dr. Zhbanoff communicates to *Vratch* some very interesting data concerning Russian medical journalism. He gives a list of all the journals that have ever been published in Russia, their programmes, names of the editors, period of existence, price, and other interesting information.

Origin.—The first medical journal appeared in 1792 under the name of *Sauktpeterburgskya Vrachelniya Viydomosti* (*St. Petersburg Medical Annals*), and existed till 1794; from 1801 till 1810 appeared 1; in the second decade, 1; in the third, 3; in the fourth, 3; in the fifth, 2; in the sixth, 7; in the seventh, 13; in the eighth, 12; in the ninth (1880–90), 38, almost fifty per cent. of all the journals that were published. The journal *Drukh Zdraviya* (*The Friend of Health*) is the first in longevity, having attained the age of thirty-seven years before it expired (1833–70).

Period of Existence.—Forty-five organs have ceased to appear, and 32 are published yet. At present, in their first year, 3 journals; in second, 6; in third, 1; in fourth, 3; in fifth, 1; in sixth, 3; in seventh, 2; in eighth, 2; in ninth, 1; in tenth, 2; in eleventh, 1; in fourteenth, 1; in sixteenth, 1; in seventeenth, 1; in twenty-fifth, 1; in twenty-eighth, 1; in thirty-third, 1; in sixty-eighth, 1. All the journals together exist 324 years, on the average 10.25 years each of them. The government journals (*Voyeum Medicinski Journal*, etc., in all 3) have an average of 28.25 years; of societies, 15.75; individual enterprise, 5.64. The journals that have existed and gone had 356 years in common; average, 7.5.

Places of Publication.—In St. Petersburg, 51; Moscow, 15; Kieff, 3 (of which one was published afterward in Warsaw); in Bryansk, Vororez, Kazan, Kerch, Lipetz, Novgorod, Pyatigosk, Ryazan, Glavyansk, Tiflis, Kharkoff, and Chernigoff, 1 in each. Of the 32 existing now, 18 are published in St. Petersburg, 4 in Moscow, and 10 in other cities.

Intervals of Publication.—One journal three times a week; 1 journal twice a week; 20 journals once a week; 5 journals in two weeks; 30 journals once a month; 5 journals once in two months; 4 journals once in three months; 4 journals once in four months; 10 journals at no definite period.

Publishers.—Twelve by various governmental institutions; 17 by societies and universities; 17 by professors, and 35 individual enterprises.

Contents.—Strictly scientific, 57; popular scientific, 8; popular, 17; references, 5.

Specialties.—General medicine, 36; hygiene and popular medicine, 11; ophthalmology and water-cure, 4 each; medico-pedagogical, psychiatry, surgery, midwifery, internal diseases, therapy, pharmacy, and zemsko-medicine, 2 each; dentistry, 1.

Causes of Discontinuation of Forty-nine Journals.—Change in the editorship and programme, 10; by resolution of societies, 2; lack of sympathy, 3; on account of sickness or death of editor, 5; lack of matter, 1; discharge of the editor, 1; on account of other occupations of the editor, 2; causes unknown, 25.—*Times and Register.*

Statistics of Vaccination in Germany.—Dr. D. Goldschmidt has lately published some statistics as to the effects of vaccination that speak for themselves with an eloquence which makes comment superfluous. The figures are given on the authority of the Berlin Health Office, which in 1888 and 1889 was ordered by the Reichsrath to collect facts on the subject. The death-rate from small-pox in Prussia and Austria from 1860 to 1869, when vaccination was not compulsory, was 33.84 and 33.23 respectively per 100,000 inhabitants; in England during the same period it was 19.98. In 1875 vaccination and revaccination were made compulsory in Prussia, and between that year and 1884 the death-rate from small-pox fell to 2.23 per 100,000. During the same period it was 6.61 in England, where vaccination alone was compulsory, and 61.64 in Austria, where it was left to "local option." In Bavaria, where both vaccination and revaccination have been compulsory since 1875, the death-rate from small-pox between that year and 1884 has been 1.11 per 100,000, the corresponding ratio for Belgium, where vaccination is optional, being 44.36 during these ten years. Equally striking results are got by comparing the small-pox mortality of some large European cities during the same period. Taking first towns where vaccination is optional, we find that the average death-rate per 100,000 inhabitants was 165.437 in Prague, 84.373 in Vienna, and 28.954 in Paris. In London, under compulsory vaccination, the corresponding ratio was 25.500. When we come to the towns where both vaccination and revaccination are compulsory, the difference is striking. Thus the small-pox death-rate per 100,000 was only 1.482 at Dresden, 1.614 at Breslau, and 1.687 at Berlin. In 1886 only 193 persons died of small-pox in the whole of Germany, being at the rate of 0.4 per 100,000, while in Paris alone there were 218 deaths from the disease in that year. Small-pox has all but disappeared from the Prussian army, only one man having died of it from 1876 to 1885. In the Austrian army, where the revaccination of recruits is not insisted on, the average number of deaths from small-pox is 52 a year. The following figures, drawn from the books of a few German hospitals, may also be commended to the earnest attention of antivaccinators; they show the proportion of deaths among small-pox patients during the great small-pox epidemic of 1870–71, according as they were unvaccinated, vaccinated, or revaccinated. Of patients belonging to the first of these categories eighty per cent. died at Munster, seventy per cent. at Posen, and fifty-four, seventy, sixty-six, and eighty-one per cent. respectively at four Berlin hospitals. Of the vaccinated patients thirteen per cent. died at Munster, twelve per cent. at Posen, and thirteen, sixteen, fifteen, and fourteen per cent. in the four Berlin hospitals. Among revaccinated patients the corresponding percentages were as follows: Munster, 0; Posen, 2; Berlin hospitals, 0, 4, 9, 9, respectively. In Bavaria in 1882 it was found that of the whole number of small-pox patients only 14.6 per cent. were vaccinated and 5.8 revaccinated.—*British Medical Journal*, June 14 1890.

To Detect Fecal Matter in Drinking Water Griess recommends a feebly alkaline solution of para-diazobenzol-sulphuric acid, which, with water contaminated as indicated, will produce a yellow discoloration within five minutes. Try it on the old well next summer.

Removal of Iron Rod from Bladder.—A patient was trying to use a solid metallic rod, five inches long, and the diameter of No. 10 catheter in the place of the ordinary bougie, for the treatment of a stricture. He was in the habit of inserting the rod into the urethra at bedtime, and allowing it to remain during the night, when he would remove it by means of a "string" attached to a "hook" in one end of the rod. On the morning of the 23d September, while he was attempting to remove the rod, "the string broke," and the rod passed into the bladder, which was partly filled with urine. He remained in this condition twenty-four hours before medical aid was called. Dr. A. C. Winn, of Santa Cruz, Cal., was called to attend the case, and, with the assistance of Drs. Doyle and McGuire, succeeded in dilating the urethra, and with a pair of urethral forceps he was able to grasp one end of the body, which was just at the mouth of the bladder, and removed it without much difficulty. The patient was greatly relieved, and made a very good recovery. Nothing in the way of an anæsthetic was used except a few drops of a ten per cent. solution of cocaine injected into the urethra, and a hypodermic injection of morphine and atropia a few minutes before the operation commenced. Taking the history of the case, the nature of the foreign body, the manner of its introduction into the bladder, and the way in which it was removed, it is certainly a remarkable one, and one that seldom happens.

International Congress of Hygiene.—The honorable secretaries of the Committee of Organization of the Seventh International Congress of Hygiene and Demography, call attention to the fact that this congress will be held in London during the week beginning August 10, 1891. The governments of all countries and municipalities, and all public health authorities, universities, colleges, and societies occupied in the study of the sciences more or less immediately connected with hygiene, are invited to co-operate and appoint delegates to represent them at the congress. The Prince of Wales will preside. A Committee of Organization has been formed, of which Sir Douglas Galton is chairman, and Professor W. H. Corfield and Mr. Shirley F. Murphy are honorary secretaries. An exhibition of articles of hygienic interest will be held in connection with the congress. The last of these congresses was held in Vienna in 1887, and was attended by over two thousand persons, and it is expected that the London meeting will be one of great magnitude and importance. Very respectfully, JOHN S. BILLINGS, M.D., Member of the International Permanent Committee, Washington, D. C.

The Worship of Æsculapius.—The admirable fooling of the Plutus of Aristophanes brings vividly before us the customs of the Æsculapius worship of Athens, the sleeping of the patients in the temple of the god, and his appearance in the dead of night to counsel and restore them. Some modern writers have tried to show that the real healing power of the temples of Æsculapius lay in the salubrious sites and gushing fountains, in the daily walks in their shady arcades, and the freedom from business and dissipation which they offered. Such a view is quite in accord with the materialism which always prevails in the great medical schools. But it is not in accordance with the facts. There were medical schools in antiquity, of which writings like those of Celsus give us a high opinion, and they probably looked on the temples of Æsculapius in much the same way in which modern physicians look upon hypnotism and faith-healing. The fact appears to be that the priests of Æsculapius had no competent knowledge of medicine; and the site of the temple, at Athens at least, was anything but salubrious, hidden under the rock and exposed to the full power of the sun. The throng which filled the halls of the god was a proof that the heart of the people was in revolt against the materialism of the profession. People came to Æsculapius to be healed because they preferred divine to human aid; perhaps because human aid had done all it could for them without result. And, probably, the great majority went to sleep in the temple of the god with a strong faith that he would really take compassion on them, and either work a direct miracle on their diseased members, or, at least, give them advice by which they might profit. That faith in the votaries should be sometimes met by imposture on the part of the priests was natural. As to the relative proportions in the whole cult of belief and of imposture, we have insufficient means of judging, in spite of numerous recent documents recovered from Epidaurus, the chief seat in Greece proper of the worship of Æsculapius. These documents record a number of miraculous cures, some even of an extravagant description, but they give us but little idea of the manner in which they were brought about. The existing remains at Athens help us to reconstruct the daily life of the patients of Æsculapius, but do not offer us any material for the history of ancient medicine. Even the models of limbs which were commonly dedicated to the god by those who had been cured, and which were as common in Greek temples as they still are in the churches of Belgium and Italy, have in this case not been found. The worship of Æsculapius belongs in Greece mainly to the later age, when the decay of civic life and practical politics had left men more at leisure to study the symptoms of their own complaints, and when the people had so far fallen away from their allegiance to the great civic deities as to be ready to devote themselves to cults of a newer kind and more marked by actuality.—*The Quarterly Review.*

Some Views on Rickets.—In a recent paper Dr. Quisling considers the subject of rickets, holding that there are at least two varieties of the disease, and that at present it is not scientifically established that acute rachitis and the common chronic form have the least to do with each other; that for many so-called cases of acute rachitis the proper name would be surbutus infantilis, for others ostitis, periostitis, or osteomyelitis. He has seldom observed fœtal rickets, but congenital rickets was found in from three to ten per cent. of all new-born children. Rickets generally begins between the sixth and eighteenth months; after the third year circumstances are unfavorable for the onset and development of rickets. As ordinary symptoms of the earliest period, he mentions pallor, sweats, restlessness, spasm of the glottis, disturbances of digestion. In the second stage are found wasting, sensitiveness to touch, anomalies of dentition, respiratory diseases. In the third stage appear alterations in the consistence and form of the bones, and often swelling of the veins and spleen. The extension of the disease to almost all organs points clearly to the hypothesis of a constitutional disease, which must be put in the general class of chronic inflammations, and which arises through a cause of probably irritative nature, acting directly through the blood or indirectly through the nervous system. He is sceptical on the question of hereditary rickets, and finds no material to indicate syphilis as a cause. On the other hand, he finds a want of fresh air the only acceptable explanation of two facts much too little considered, viz., the geographical distribution of rickets, and its prevalence in certain seasons of the year. He is less positive as to the harmfulness of digestive disturbances. It is true the contingent of breast-fed children in the first year of life amounts to fifty-one per cent. compared with seventy-six per cent. of bottle-fed children; still the difference of twenty-five per cent. may have other possible causes.

Potassium Nitrate in Intermittent Fever.—Dr. J. D. Hunter writes, in the *North Carolina Medical Journal*, that he continues to have remarkable success in the treatment of intermittent fever with nitre. He says that he has treated more than two hundred cases of chronic chills of malarial origin, from a few months to years standing; many complicated with enlargement of the liver and spleen, dropsy, jaundice, etc., all more or less emaciated and anæmic. Nearly every case was cured with a single dose of nitrate of potassium. From two to fifteen grains of the salt, according to age, dissolved in a half ounce of water, administered just prior to the chill or during its continuance, did not only abort or arrest the chill, but effectually prevented its recurrence. In order to test the value of the remedy, Dr. Hunter employed no subsequent treatment, but left the restoration to health (which was in nearly every instance rapid and satisfactory) to the *vis medicatrix naturæ*. He is fully assured that from two to fifteen grains of potassium nitrate will usually abort or arrest a chill arising from any cause. A large dose, however, is not well borne by the stomach, and frequently, in the writer's hands, caused most alarming and distressful symptoms, by producing a prolonged depression of the heart's action.

The Duration of Life in the Medical Profession.—It is calculated, on the basis of statistics, that the average duration of the lives of medical men in Prussia, from the end of the thirtieth year onward, is somewhat below that of the total male population of the country, though the latter includes a large number of decrepit and diseased persons, such as the nature of the medical profession excludes.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38. No. 21.
Whole No. 1046.

NEW YORK, NOVEMBER 22, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

AN EXPERIMENTAL STUDY OF PREVENTIVE INOCULATION IN TUBERCULOSIS.

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SARANAC LAKE, N. Y.

THE idea of applying preventive inoculation to tuberculosis is not a new one. Ever since it was first demonstrated that artificial immunity against an acute infectious disease could be conferred by this method the possibility of its successful application to tuberculosis has occupied the minds of investigators.

Dr. Falk, in 1883, in a communication to the Medical Society of Berlin, described his attempts at preventive inoculation for this disease by means of tubercular virus attenuated by contact with putrefying material. A. Marfan,[1] in 1886, suggested the possibility of attaining success by this method from clinical facts he had observed relating to the protective influence of healed lupus and scrofulous glands. H. Martin,[2] in 1887, Raymond and Arthaud,[3] and others, more recently, have described their attempts and experience in this line of investigation.

The improvements made in the technique of laboratory methods and the encouraging results which have recently been obtained in protecting living animals by preventive inoculation against a number of bacterial diseases has prompted investigators to renewed studies in this direction.

If we have been taught by the extended researches of the past years the difficulties which must beset the direct destruction of the tubercle bacillus in the tissues of man and animals by germicidal methods, we have also learned that a living organism possesses many and mysterious powers of resistance, that the margin between susceptibility and immunity, whether purely biological or chemical, is often a very narrow one, and that the most promise at present seems to lie in the study of nature's laws of immunity and in learning how far we may influence and imitate these. Immunity from disease being a part of the unsealed riddle of life itself, the study of its mechanism has ever been beset with apparently unsurmountable difficulties, and an exact knowledge of its laws as yet escapes us. Immunity from microbic diseases is usually a natural attribute of the living organism in which it resides, but we now know that, so far as certain infectious maladies are concerned, it may be conferred artificially, and this may be said to be true of variola and hydrophobia in man (if this be a microbic disease), and of anthrax, chicken cholera, and some forms of septicæmia and hog cholera in animals.

In tuberculosis mere physical vigor is no doubt a prominent element in the mechanism of immunity; indeed, it is the only element we can as yet seize, clinical observation and experimental research bearing ample evidence to the favorable influence which all external conditions of evironment tending to increase bodily vigor invariably exercise over the prevention and course of the disease, and to the close association which exists between depressed vitality, with its cellular degeneracy, and tubercular infection.

[1] Archives générales de Médecine, April and May, 1886.
[2] Études expérimentales de la Tuberculose, 2me Fas., 1887.
[3] Ibid., 1er Fas., 1887.

It is not, however, the only element, for it is in the prime and vigor of adult life that the disease displays its greatest activity, and strong men, whose tissues are apparently well nourished, at least so far as we can judge by the external appearance, frequently succumb to acute tuberculosis in a short time, while many debilitated and delicate individuals, living under the worst possible hygienic surroundings and whose nutrition is constantly at the lowest ebb, never suffer from this disease. There appears to be, therefore, over and above the element of physical vigor, a natural immunity against natural means of infection in tuberculosis, as in all other infectious diseases—an immunity possessed to a different degree by different individuals and species of animals, and which is quite sufficient for their protection, no matter at how low an ebb their physical vigor may chance to be. Whether we believe that immunity is due to the germicidal power of blood-serum, to the phagocytic activity of the cells, to purely chemical reactions intimately connected with the biological life of the tissues, to an unsusceptibility of the nerve-centres to the poisonous products of the microbes, to a combination of these elements, or to some factor as yet unknown, it is evident that the margin between immunity and susceptibility is a very narrow one at first, that some trifling chemical or biological variation in the tissues is capable of turning the scales for or against infection, and some hope would seem to lie in the possibility of artificially inducing this condition of resistance in them. Acquired immunity is established naturally by a previous attack, artificially by some form of inoculation. From a mass of more or less contradictory testimony regarding immunity by inoculation we may seize this one prominent fact, namely, that there resides in the living organism a certain power of habituation to noxious influences, one of the simplest expressions of which is to be found in the tolerance to poisonous drugs which may be brought about by graded doses, and the most complex in the protection afforded by vaccination. In variola, probably in hydrophobia, and in the group of diseases of animals against which protection can be artificially conferred, an immunity as complete, though not as lasting, as that established by a previous attack may be obtained by some form of inoculation. All successful methods of inoculation so far rest upon the application of what, owing to our ignorance, we can as yet only designate in a vague way, as the law of habituation, the virus which gives protection being generally either an attenuation or a modification of the same which causes the disease. In one instance this artificial protection will be induced by an artificially modified or attenuated microbe; in another, apparently by the chemical and metabolic products which the growth of the virulent microbe develops. Thus, in the septicæmia of guinea-pigs [1] and in hog cholera [2] the soluble products of the microbe's life history, so far as the limited evidence at hand shows, prove an efficient protection in these animals against subsequent and repeated injection of the most virulent cultures; in chicken cholera the attenuated bacteria alone give protection, while in anthrax both the soluble products of the virulent germs and the attenuated microbe can render certain animals immune.

How universal is this law of habituation, through whose operation living beings can at will be rendered invulnerable to these deadly maladies? Is its protecting influ-

[1] Annales de l'Institut Pasteur, October 25, 1889.
[2] Medical News, September 6, 1890.

ence limited to the more active or rapidly fatal infectious diseases, or may it extend as well to the more chronic forms, such for example, as tuberculosis? Certainly there has not in the clinical history of tuberculosis seemed to be much to foster the hope that any method of preventive inoculation is likely to be successfully applied to this disease; but some encouragement to investigation in this line may be derived from the possible universality of the law of adaptation to noxious influences generally, from the brilliant achievements of the past years in the field of vaccination, and from the recent improvements in methods of conferring artificial protection.

Can the tubercle bacillus, or the soluble products of its life history, when treated according to the teachings of modern science, be made to confer any degree of immunity against this disease? To collect and present some evidence on this point has been the object of the present study.

Modern methods of protective inoculation aim at obtaining virus mainly in two ways: 1. By securing the soluble products of the microbe's life history freed from living germs. 2. By the production of an attenuated germ.

In the first series of experiments a non-living complex chemical substance was introduced as protecting agent; in the second series, a living but attenuated germ.

Series I. Inoculation of Chemical Substances.—In this set of experiments three forms of material were made use of: 1st, surface cultures of tubercle bacilli, which through the influence of heat and light were dead and refused to grow on the usual culture media; 2d, liquid cultures of tubercle bacilli grown for a month and then sterilized by heat; 3d, liquid cultures of tubercle bacilli freed from living germs by filtration through a porcelain filter. These substances were injected subcutaneously into fifteen rabbits divided into three equal lots.

Lot I. Dead Surface Cultures.—Five rabbits received on three occasions, at intervals of four days, subcutaneously, 4 c.c. of dead surface culture suspended in distilled water in sufficient amount to make an opaque turbid emulsion. No disturbance of temperature or health followed; no abscess or irritation at the site of injection was noted; the animals were kept for six or seven weeks, when they were injected in the lung with ½ c.c. of slightly milky emulsion of living virulent tubercle bacilli.

Lot 2. Sterilized Liquid Cultures.—Having grown pure cultures of tubercle bacilli in glycerine-peptone-bouillon for a month and proved their purity microscopically, the flask containing them is steamed for an hour. The liquid, in which are suspended the dead germs, is then cooled and injected, with antiseptic precautions, into the subcutaneous tissue of five rabbits, to the amount of 6 c.c. for each animal. These injections are repeated on five occasions, at intervals of five days, increasing gradually the amount to 12 c.c. to each animal. The subcutaneous introduction of this liquid was followed by a marked rise of temperature and by a trifling, but temporary, irritation at the site of puncture; not a single abscess occurred, and the rabbits, when inoculated with virulent culture four weeks from the last vaccination, were apparently in good condition.

Lot 3. Filtered Cultures.—Having grown pure cultures of tubercle bacilli in glycerine peptone-bouillon for a month, and proved their purity microscopically, the entire contents of the flask is filtered with very slight pressure through a porcelain Pasteur filter. The clear filtrate proved free from germs, as shown when planted in fresh bouillon tubes, and two animals injected with this liquid and killed three months later presented no tubercular lesions. Injections of this filtered fluid, in the same amounts and at the same intervals as in the preceding lot of animals, were made in five rabbits. These gave rise in the animals to the same elevation of temperature which was noted in Lot 2, injected with sterilized liquid cultures. The temperature, usually about 102 ⅕° to 102 ½° F. at the time of the injection, falls a little during the first hour, then rises shortly until the fifth hour to between 106° and 107° F. It maintains itself at this high point until the eighth or tenth hour, when it slowly returns to normal. Control rabbits, however, injected with the same quantity of fresh glycerine-peptone-bouillon show a rise nearly equal to the one described, and which presents an almost identical curve. This, coupled with the fact that large amounts of fresh surface cultures when mixed with sterilized water and injected subcutaneously give but a trifling rise of temperature, makes it questionable whether this high temperature may not be almost entirely due to the peptones and salts contained in the bouillon. No irritation occurred at the site of puncture, which was done antiseptically, though in the last injection 12 c.c. of the fluid were introduced at a time. No abscess and no permanent toxic symptoms followed, and the animals, which had been kept over two weeks after the last injection, were in excellent health when, together with their mates, they submitted to the final inoculation with fresh cultures. On the same day (February 22d) all these rabbits, Lots 1, 2, 3, together with five fresh ones as controls, were inoculated in the right lung with ½ c.c. each of a suspension of tubercle bacilli in bouillon. Two months later the controls were killed, and the autopsies of the other animals, Lots 1, 2, 3, followed as rapidly as possible, extending over a period of less than two weeks. The results are briefly told: All the rabbits are more or less tubercular; the lesions of those in whom this preventive inoculation was practised differ from those observed in the controls but little, except that in the rabbits previously injected with the filtered cultures (Lot 2) the disease is somewhat more advanced. The experiment relating to this set of animals was therefore repeated in precisely the same way as before, except that the interval between the last preventive inoculation and the virulent inoculation was only three days. Four animals were used. Two months later, the two rabbits who had undergone the protective treatment were found to bear tubercular lesions appreciably farther advanced than the controls.

The second set of experiments relate to preventive inoculation with a living but attenuated microbe. Our knowledge of the conditions necessary to either diminish or increase the natural virulence of the tubercle bacillus, is still very fragmentary. Roux, Nocard, Yersin, and all the experimenters of Pasteur's school have stated that cultivation in glycerinated media so increases the virulence of Koch's bacillus that a germ is thereby obtained capable, upon intravenous injection, of killing rabbits with great regularity in eighteen to twenty-four days, the animals presenting a peculiar form of septic tuberculosis. I have never been able to produce in the ordinary rabbit for sale in our markets here the type of disease these investigators so ably describe, nor have I noted any marked increase in the pathogenic properties of the tubercle bacillus when it is cultivated in glycerinated media. Cultures which I have been able to make directly from the lesions of acute miliary tuberculosis in the human subject have not differed to any appreciable extent in their effects on animals from tubercle bacilli obtained from other sources. All attempts on my part at systematic attenuation of tubercle bacilli by placing them in an unfavorable environment have proved nearly as unsuccessful. Under what manipulation I have so far brought to bear on them individual cultures have been often so nearly killed as to lose much of their pathogenic power, but this could not be regulated with any degree of certainty, and failed to be reproduced with any regularity in subsequent generations; either the microbes would refuse to grow entirely, or the subsequent plants which grew soon regained their usual virulence.

Many pathogenic microbes when transferred from a parasitic to a saprophytic existence adapt themselves readily to their altered surroundings, which produce in them two important changes—they grow more easily and abundantly in culture media and they lose to a greater or

less degree their power to maintain themselves in living beings, in other words, their virulence.

The tubercle bacillus, on the contrary, seems to adapt itself with some reluctance to a saprophytic existence, and is with great difficulty robbed of any degree of its virulence. My observations in this particular coincide with those made by Dr. Koch, who found that after having led an uninterrupted saprophytic existence for eight years cultures of tubercle bacilli under his observation remain the same, save for a very slight diminution of virulence. What I failed, however, to accomplish by my own efforts chance all at once put in my way and furnished me with what was apparently an attenuated tubercle bacillus. Among a large number of tubes on my thermostat. in January, 1890, I noticed that in several, all having the same origin (the lesions of a guinea-pig caused by the scrapings of an old phthisical cavity) a marked cultural variation had appeared. This I ascribed at first to contamination, but careful double staining proved the cultures to be pure. These tubes I presented, in April and May, 1890, to the New York Pathological Society and to the Association of American Physicians, describing at that time their biological peculiarities, which consisted in a well-defined and constant cultural variation and in a great diminution of natural virulence. Rabbits inoculated subcutaneously with these cultures present after four months only an indolent localized lesion at the site of injection and no visceral disease. The cheesy abscess thus caused often grows to great size and shows no tendency to open externally; as time goes on it generally loses its cheesy character, becomes gelatinous in appearance and tends often slowly to disappear, the animal still continuing free from visceral disease. Intra-pulmonary injections of small amounts produce in rabbits a localized tubercular process with little tendency to spread, or spreading very slowly in rare cases, and which is often entirely recovered from. Intravenous injection of moderate amounts of this attenuated germ gives rise to no appreciable disease, while intra-peritoneal inoculation of large quantities is usually fatal. In guinea-pigs, tubercu losis running a very slow course is brought about by all the above methods of inoculation, except by subcutaneous injection, which generally results only in a localized cheesy abscess similar to that caused in rabbits, but showing a much greater tendency to open and discharge itself externally. Whether this attenuation was due to the origin of these bacilli, or to the varied conditions of their surroundings while under cultivation through many generations it is impossible at present to determine; but these constant cultural peculiarities and their enfeebled virulence seemed to warrant the assumption that the microbes in question were an attenuation of the tubercle bacillus, and these cultures were therefore used in the following experiments to produce a mild and localized form of the disease and determine whether they would afford protection against a subsequent virulent inoculation.

Series II. Experiment A. Inoculation of Living Virus.—Four guinea-pigs were injected under the skin of belly with an old liquid culture (A) of the above-described attenuated bacilli in glycerine-peptone-bouillon, and a week later again with a fresher culture (B) of a month's growth, just taken from the thermostat, where it had been grown at irregular temperatures, ranging from 34° to 44° C. Plants of both sets of cultures, A and B, in fresh bouillon, showed six weeks later abundant growth from culture B, and from culture A in only one of the three tubes planted. The animals were kept five weeks, when they appeared in excellent condition, but all presented a small unopened abscess at the site of the second preventive inoculation, without any enlargement of the lymphatic glands. Two of them (Lot A) were then, together with two fresh animals as controls (Lot B), injected under the skin of belly with ½ c.c. of a virulent culture of the tubercle bacillus suspended in distilled water, while the remaining two animals (Lot C), which had been subjected to the protective treatment alone, were kept to determine the effects of the attenuated culture. All the animals were killed six weeks later. The results were as follows:

Lot C (simply subjected to protective treatment).—Both guinea-pigs present a small ulceration where the attenuated culture has been injected; in the first animal the spleen is a little enlarged and two gray tubercles are visible in the right lung; in the second animal all the organs are perfectly normal.

Lot B, Controls.—Both animals are markedly tubercular and present ulcerated cheesy abscesses, cheesy inguinal, mesenteric, and bronchial glands, very large tubercular spleens, and young tubercles scattered through liver and lungs.

Lot A.—Having undergone preventive and subsequent virulent inoculation. Both animals are profoundly tubercular, perhaps a trifle more so than the controls whose autopsies are briefly recorded above.

Series II. Experiment B.—This experiment was a repetition of the last one, only the protective inoculations were made with surface cultures of the attenuated bacillus grown on glycerine-peptone-agar, instead of liquid cultures, as in experiment A, Series II. The first preventive inoculation was made on six guinea-pigs with an old surface culture four months out of thermostat; the second, a week later, which a fresh one grown at irregular temperatures from 34° to 44° C., and whose viability was proved by plants on fresh culture media. After having been kept five weeks the animals showed very trifling indurated spots at the site of injection and were apparently in good health. Two of them, Lot A, were kept to control the preventive inoculation, and the four others, lot B, together with four fresh controls, Lot C, were injected under the skin of abdomen with a suspension of virulent tubercle bacilli in distilled water. Six weeks later all the animals were killed.

Results.—Lot A. Simply subjected to protective inoculation. One animal presents a small open ulceration at the site of vaccination, with one slightly enlarged inguinal gland; all the organs in both animals are perfectly healthy.

Controls, Lot B. All markedly tubercular, cheesy abscesses, cheesy glands, spleen, liver, and lungs riddled with tubercle.

Lot C. (injected first with attenuated and subsequently with virulent cultures). All tubercular; one only moderate, the other three are more extensively diseased than the controls.

Series II. Experiment C.—This experiment was merely a repetition of the last two, A and B, Series II., and was made for purposes of confirmation and control. Sixteen rabbits were used, ten (Lot A) were injected twice, at intervals of seven days, with a fresh surface culture of the attenuated bacillus grown at a constant temperature of 37° C. At the expiration of four weeks they presented prominent abscesses at the site of injection, but were otherwise in good condition. They were then, together with six controls, inoculated in the vein of the ear with 1 c.c. of virulent tubercle bacilli suspended in distilled water. Eight weeks later they were all killed within a few days of each other. The animals who had undergone preventive inoculation (Lot A) all had large indolent abscesses at site of injection with the attenuated material. When killed, all the rabbits present the lesions of miliary tuberculosis of the lungs in varying stages of development; the other organs are sound. Both lots are about equally tubercular.

Summary of Experiments.—*Results:* In Series I. preventive inoculation of the non-living chemical products of the life history of the tubercle bacillus failed, when applied as above described, to afford any protection against subsequent infection with virulent living tubercle bacilli.

In Series II. preventive inoculation with an attenuated but living germ, capable of producing in most cases only an indolent and localized tubercular process at the site of injection, failed to protect against subsequent

inoculations with virulent tubercle bacilli. No immunity seems to have been conferred by a saturation of the system which the chemical substances evolved by the microbes during their growth in artificial culture media, or by the production of a mild form of the disease. It must not be forgotten, however, that the methods of preventive inoculation which have formed the groundwork of this study are merely tentative and in a field in which we can as yet but grope our way. They may seem crude even now, and in the light of our rapidly advancing knowledge on this subject they will soon appear even more so than at present. Nevertheless, merely as a biological study of the tubercle bacillus these observations seem perhaps worthy of record, and we may, in spite of the unpromising evidence which they have brought forth, turn to the brilliant announcements recently published with a strong hope that the resources of foreign laboratories or the individual efforts of some earnest worker are about to solve the problem of protective inoculation for this disease, even if the genius of Koch, reaching out along new lines, has not already succeeded in producing a specific treatment for the cure of tuberculosis.

EXPLORATORY PUNCTURE OF THE FEMALE PELVIC ORGANS.

A Diagnostic Study.[1]

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For the past two years I have systematically practised exploratory puncture as an aid in the diagnosis of those diseases of the female pelvic organs which are attended with comparatively slight increase in size of the parts involved. In these cases we are but too often forced to content ourselves with the diagnosis of a "mass," to the right or left of, anterior or posterior to, the uterus. This diagnosis of a "mass" is thoroughly unscientific and unworthy of progressive gynecology, which demands that it shall become less and less frequent. For my own part, I confess tnat I have never made it, or announced it, without a feeling of humiliation at not being able to do better.

It was this feeling of humiliation and discontent which led to the attempt, at first in isolated instances, to reach a more definite diagnosis by exploratory puncture of the "mass." Subsequently, encouraged by one or two gratifying results, I elaborated a technique or method of exploratory puncture which I have since systematically practised in all cases where, without it, a positive diagnosis could not be reached. While it has often failed to throw any further light upon the case, it has nearly as often been of signal service in elucidating the diagnosis. It has determined me to the performance of laparotomy where, without it, I could not have made up my mind to the necessity of the operation. On the other hand, it has led me to decline operative interference in cases where, without the knowledge conveyed by it, I, in common with most of my brother gynecologists, would have recognized clearly the indications for abdominal section. In other words, it has in a number of instances served to give greater precision to the indications for and against laparotomy.

Scope of the Paper.—This paper, let it be distinctly understood from the outset, does not embrace the subject of the diagnosis of the larger tumors of the abdomen, whether originating from the pelvic or abdominal organs. It concerns itself *solely* with the differential diagnosis of slight enlargements, or "masses," which are either situated entirely within the pelvis proper, or, originating there, project but slightly above the brim of the true pelvis into the abdomen, and which are clearly recognizable only by combined abdominal and vaginal touch.

[1] Read before the Section on Obstetrics and Gynecology, New York Academy of Medicine, October 23, 1890.

Methods of Exploratory Puncture.—Before proceeding to describe my own method of exploratory puncture, I should like to be permitted a few words and a few criticisms upon the various methods in common use. These methods may be classified as: 1. Abdominal exploratory puncture. 2. Vaginal exploratory puncture. 3. Rectal exploratory puncture.

To abdominal exploratory puncture there can be no valid objection when the diseased mass lies close up against the anterior abdominal wall. But this condition is quite exceptional. I have only met it three or four times within the past two years in the class of cases we are at present considering. When a small mass lies at some depth in the pelvis, say to one side or other of the uterine cornua, and is perhaps movable, it will be a lucky thrust which will succeed in landing the point of the needle safely in its centre. In such instances there is no certainty and accuracy in the method as ordinarily practised, and it cannot be relied upon.

This same objection, together with some others, applies also to puncture made from the vagina. The vaginal method should be limited entirely to puncture of effusions or tumors distending Douglas' sac, or bulging well into the vagina, if situated laterally or anteriorly. It is practised with or without the use of the speculum. Let us take, again, the instance of a small "mass" situated high up alongside of the uterine body. If the speculum be used, the instrument will be in the way of the palpating finger, and generally prevent it from exactly locating the "mass" just previous to puncture of the latter. Without such a palpating finger for a guide, everyone of us knows how uncertain it is in what direction, or into what, we plunge our needle. Without the speculum the lesion can be better located; it is absolutely necessary, however, to retain the examining finger as a guide to the needle while puncture is being made. The presence of this finger and the absence of the speculum interfere greatly with the free and proper use of the needle.

Of the two methods of performing vaginal puncture the one dispensing with the use of the speculum is, for the class of cases we are considering, probably the better. With the speculum, be it Sims, bivalve, or cylindrical, except in cases where the tumor bulges into the vagina, you cannot be certain of really puncturing it. Without the speculum there is greater certainty of really accomplishing the puncture, but the movements of needle and syringe are greatly hampered. With both, perfect asepsis—and sufficient stress cannot be laid on this point—although not impossible, is difficult to secure, and always more or less doubtful.

In common with nearly all gynecologists I have practised vaginal puncture for many years, and still employ it in suitable cases as above indicated. These cases are, however, excluded from consideration here, as not coming properly within the limits of this paper.

Rectal exploratory puncture I would discard altogether, or limit to cases of disease of that viscus. Except in instances of neoplasms or exudates occupying the post-rectal region, I cannot conceive of the case in which vaginal puncture would not yield the same information which might be obtained by rectal puncture. I have never practised rectal puncture.

Abdominal Puncture Guided by Combined Vaginal and Rectal Touch.—I will now attempt to describe the method of exploratory puncture of the female pelvic organs as I systematically practise it. The patient is placed upon the examining-table, with the pelvis elevated or not, as may seem indicated in the particular case. The bladder should always be empty. A careful and thorough bimanual examination precedes the puncture in every instance.

This examination I am in the habit of making by passing the index-finger of the left hand into the vagina and the middle finger of the same hand into the rectum. The diseased structures are palpated between these two fingers and the fingers of the right hand placed upon the abdo-

men. More positive information can be gained in this way than by the combined abdominal and vaginal touch alone. The perineum can be carried upward, to an average extent of about an inch, upon the web or bridge between the rectal and vaginal fingers, enabling the finger in the rectum to palpate the entire posterior surface of a normal-sized uterus, and to reach well up into the region of the tubes and ovaries.

The examiner must feel satisfied that he has gained all the information that a thorough examination can be made to yield. If this is impossible without an anæsthetic, then chloroform is administered. I have never administered an anæsthetic for the sole purpose of avoiding the pain of the puncture. This is comparatively slight, and generally borne without great complaint by patients, the prick of the needle as it penetrates the skin being the most painful thing about it.

If the results of the examination, be it with or without anæsthesia, are sufficient to establish a positive diagnosis in the examiner's mind, the exploratory puncture is omitted. If, however, as is often the case, a "mass" is the only thing that can be positively diagnosed; or even if, a better diagnosis being attained, tormenting doubts still assail the examiner's mind, then exploratory puncture is superadded and performed in the following manner: The skin of the lower part of the abdomen is thoroughly disinfected, with as great care as if laparotomy were contemplated. The index-finger of the left hand is carried into the vagina and the middle finger of the same hand into the rectum; or, instead of the index-finger the thumb may be passed into the vagina, and the index-finger into the rectum. I have generally preferred the former arrangement.

The ovary, tube, small tumor, or "mass" to be punctured is located by the fingers. The rectal finger, if possible, reaches around behind to the upper limits of the "mass," the vaginal finger being applied to its lower pole. The "mass," thus fixed and balanced between the fingertips, is carried forward as far as can be done with safety toward the anterior abdominal wall.

By combined palpation a point on the anterior abdominal wall, directly over the centre of the "mass" to be punctured, is located by the carefully disinfected fingers of the right hand. At this point, wherever it may happen to be, the sterilized needle is carried perpendicularly through the abdominal wall, and all intervening tissues and organs, into the centre of the "mass."

The fingers in the vagina and rectum fix the diseased structures, control the course of the needle, and guide it into that part of the mass we desire to puncture. An assistant draws the piston, while the operator's right hand firmly grasps the barrel of the syringe, thus steadying it and the needle. This immobility of the needle and perfect asepsis are the essentials which, to my mind, guarantee the innocuousness of the procedure. Should the aspiration prove negative I never dally with the temptation to move the point of the needle forward and backward, or to advance it in a slightly different direction, but promptly withdraw it, and, if for any reason considered advisable, make an entirely new puncture.

A negative aspiration will leave the diagnosis in doubt; the withdrawal of fluid will, however, give it very great precision. In conjunction with the results of careful bimanual examination it will frequently enable us to make a very positive diagnosis, and indicate very clearly the treatment to be pursued.

I do not think I am overstating the case when I claim for this method of exploratory puncture, as compared with vaginal puncture, or with abdominal puncture as usually practised, the same superiority that is universally conceded to the method of bimanual palpation as compared with either the vaginal touch or the abdominal touch singly. It enables us to feel almost absolutely sure that we have actually punctured the diseased "mass." It is true that the "mass," though small, may be composed of various organs; may be in part fluid, in part solid. In the latter case the needle may enter the solid part, and exploratory puncture give negative results, as will be illustrated further on by one or two examples. Errors arising from such and other causes pertain to the other methods of exploratory puncture even in a greater degree, and will continue to perplex us pending the further perfection of physical diagnosis. Indeed it is as an attempted step in the direction of the latter that I would have my humble efforts here recorded considered and judged.

The Armamentarium necessary for the practice of the procedure deserves a moment's attention. It is self-evident that too coarse a needle cannot be employed with safety. On the other hand, a needle of too fine a calibre will not permit of the passage of thick fluid, and will become clogged too readily. In my investigations I have used two needles, both being of the same calibre, No. 15 steel wire gauge, though varying in length, one measures two inches, the other two and three-quarter inches from shoulder to point. The former is used to puncture the more superficial, the latter the more deeply seated "masses." I have never had occasion for a needle longer than two and three-quarter inches, although, in case of excessive fatness of the abdominal walls, the necessity for a longer needle might arise. The risk of breakage, of course, in needles of the same calibre, increases with the length; hence my preference for a needle as short as consistent with the purpose to be accomplished. Whatever, however, individual preferences may be as to length, I cannot insist too strongly that the diameter of the exploring needle shall not exceed No. 15 steel wire gauge. The syringe itself should not be too heavy and clumsy; the piston should work easily, smoothly, and evenly. The capacity of the syringe I employ is two drachms.

The Question of Danger.—Gynecologists have, as a general rule, failed to avail themselves of whatever advantage is afforded by pelvic exploratory puncture through an exaggerated dread of the danger involved in the procedure. Part of this dread is, no doubt, the outcome of the dire results that have been recorded as following tapping of abdominal tumors, especially of ovarian cysts. But it will not do to lose sight of the vast difference between puncture with and without full antiseptic precautions; between tapping with a good-sized trocar and making a puncture with a fine exploring needle. The wound made by the latter in passing through any tissue or organ immediately closes upon the withdrawal of the needle. I have repeatedly had occasion to satisfy myself at laparotomies performed immediately, as well as at varying intervals of one to fourteen days after exploratory puncture, that my needle had gone through one or more loops of gut, or through the omentum, or through both, on its way to the tumor. No ill results followed in these cases, nor indeed in any of the more than seventy cases in which I have practised the method.

Safety, as I have before stated, depends chiefly upon two factors. The first of these is perfect asepsis; the second, immobility of the needle after the point has reached its destination and while suction is being made. By attention to the latter point we avoid tearing the organs and tissues through which the needle has passed, and thus enlarging to a dangerous extent the track of the puncture.

Some of the advantages that I have derived from exploratory puncture, as thus practised, will, perhaps, be best made obvious by the recital of a few pertinent cases. This, too, will enable each one to form an individual opinion as to the value of the method.

Suppurative Inflammation of Tubes and Ovaries.—Since January, 1889, I have removed the appendages on one or both sides, for pyosalpinx and ovarian abscess, singly or combined, in fourteen women. In all but one of these cases the diagnosis of purulent disease of the appendages was positively made before operation by exploratory puncture. In addition to these thirteen cases I diagnosticated, by the same method, pyosalpinx in several other patients who, however, declined operation.

I was able to tell all these patients, after proving the presence of pus, that they carried an abscess or collection of matter within their pelves; to state to them the dangers of this condition, and to declare, with the positiveness of full conviction, that I knew of no way of curing them except by operation. From this last general statement I must, however, except one case of double pyosalpinx in which both enlarged tubes ran outward in a straight line from the cornua of the uterus and were pervious at their uterine ends. In this case I attempted and succeeded in obtaining a cure by drainage through the uterus. In the cases in which I performed salpingo-oöphorectomy I was in a position—and the advantage of this every abdominal surgeon will be able to appreciate—to approach the operating-table with a serenity of mind and conscience based upon the positive conviction that there was no alternative, but that, as far as our present knowledge went, the operation was an absolute necessity.

In the fourteenth case I failed to find pus, although I could distinctly palpate greatly enlarged tubes, and, moreover, could feel sure that my needle had penetrated into the substance of a tubal convolution at its thickest part. I will give this case in detail.

Case I. *Double Pyosalpinx; Failure to obtain Pus by Exploratory Puncture.*—B. S——, aged twenty-two, married, never pregnant, came to me September 22, 1889, with a history of pains, lancinating and intermittent in character, in both inguinal regions, but especially severe on the right side, for three years past. Pain on sexual intercourse; no leucorrhœa; no hemorrhage.

Examination.—Uterus, tubes, and ovaries matted together into an irregular, tender mass, pretty well filling the pelvis. The outlines of the enlarged convoluted tubes can be traced running over the surface of the mass.

Exploratory puncture of a convolution of the left tube with negative results. The severity of the symptoms, however, and the futility of prolonged previous treatment, called for laparotomy, which was performed on September 30, 1889.

The uterus, both tubes and ovaries were found fused into one mass. Right tube one inch and left tube three-fourths inch in diameter; both with enormously hypertrophied walls, the lumen being scarcely enlarged above the normal. These conditions are well shown in the specimen before you. Both tubes contained pus. Right ovary contained a cyst two inches in diameter. Left ovary was the seat of a small hæmatoma, and of several small cysts. Both ovaries and tubes removed.

The failure to obtain pus on exploratory puncture was explained by the enormously hypertrophied wall and the very small calibre of the punctured tube.

The Question of Differential Diagnosis between Pyosalpinx and Ovarian Abscess.—Let us analyze somewhat more closely, for purposes of study, the thirteen cases in which the diagnosis of purulent inflammation of the appendages was made by exploratory puncture and confirmed by subsequent abdominal section. Of the thirteen, 6 were cases of double pyosalpinx with normal or nearly normal ovaries; 3 were cases of pyosalpinx and ovarian abscess of the right side, the left appendages being normal; 3 were cases of double pyosalpinx with abscess of one ovary; 1 was a case of abscess of the right ovary, with normal tubes and left ovary.

Of the 6 cases of double pyosalpinx I was able in 5 to make a positive diagnosis of the exact location of the pus; in 2 of the 5 I succeeded in doing so at the first examination. After mapping out carefully, by bimanual examination, the sausage-shaped contour of the enlarged tubes—which, when it can be distinctly made out, is, as we all know, exceedingly characteristic—I balanced the larger of the two tubes upon the rectal and vaginal fingers, thrust the exploring needle into its thickest part, and obtained pus.

In three cases the diseased organs formed with the exudate in the pelvis a perfectly indistinguishable "mass," utterly impossible at the first examination of separation into its component parts by the sense of touch. But a few days or a week of rest in bed, with hot vaginal douches, caused the peritubal, periovarian, and periuterine exudations to disappear. Then the enlarged tubes could be readily detected and punctured and a positive diagnosis of pyosalpinx was made.

In the sixth case I could not feel certain where I drew my pus from.

Case II. *Double Pyosalpinx; Rupture of Left Pyosalpinx, followed by Purulent Septic Peritonitis and Secondary Perforation of Sigmoid Flexure.*—A. P——, aged thirty-one, widow, no children. Had a miscarriage six years ago, since which time she has never been entirely well, although free from great suffering. On July 22, 1889, she fell down stairs. The fall was followed by symptoms of collapse and by severe abdominal pains which have kept her in bed ever since. Two or three days after the accident she noticed a protrusion from the vulva which would recede only on the application of great manual pressure. Fever, chilly sensations, painful micturition, and an offensive, thick, yellowish vaginal discharge were the other symptoms.

On admission, August 12, 1889, the patient was in a profoundly septic condition. During the five days following the temperature varied between 101½° and 103½° F.; pulse 110 to 130, small and feeble. Abdomen distended and sensitive to pressure over its lower half. On the right side an enlarged tube can be fairly well made out.

The region to the left of the uterus is occupied by a softish mass extending upward for two inches into the abdominal cavity. Exploratory puncture into this mass gives pus. Not being able to differentiate the component parts of the mass, I was unable to say positively from what organ or tissue the pus was derived. The clear history and signs of pelvic peritonitis, however, rendered it more then probable that a peritoneal abscess had been punctured.

Laparotomy, August 17th. Recent purulent peritonitis gluing together the abdominal and pelvic organs in a promiscuous fashion. The needle must have passed through several coils of intestine fastened by adhesions across the line of puncture. Large pus tubes, with thick walls, on either side. On the left side a peritoneal abscess containing about two hundred and fifty grammes of fetid pus. This abscess was probably punctured by the needle. It communicated by an opening one and one-half centimetre in diameter with the left pyosalpinx, by a second, somewhat smaller, opening with the upper part of the sigmoid flexure.

In the light of all the information procurable the case was interpreted as follows: The patient had probably for some years past had double pyosalpinx, not giving rise to marked symptoms. The fall caused a rupture of the left tube, followed by acute suppurative pelviperitonitis. The protrusion from the vagina noticed by the patient a few days after the fall was probably the distended cul-de sac of Douglas. A peritoneal abscess formed, which perforated the sigmoid flexure.

Case III. *Double Pyosalpinx.*—This case came twice under my care—in May, 1889, and again in December, 1889. I declined to perform laparotomy on the first occasion, although the patient had come to me with a view to operation. Eight months later I removed her ovaries and tubes. The reasons for my course will appear in the history of the case.

M. H——, aged twenty-two, single. Patient first came under my care in May, 1889, suffering from atypical uterine hemorrhages and pelvic pain. Examination reveals endometritis corporis et cervicis. Uterus slightly enlarged and perpendicular in body; freely movable. Left ovary in normal position, but enlarged to nearly thrice the normal size; right ovary normal. Either tube slightly thickened. Exploratory puncture into left ovary with negative results.

Patient was sent to me for removal of the appendages. This I declined to do for the present, and, after thorough

curetting, sent her back to her medical adviser to await further developments.

Eight months later, in December, 1889, the patient returned to me. Her symptoms had continued pretty much the same. I now made out decidedly enlarged and convoluted tubes on either side of the uterus. Both ovaries appeared normal. Exploratory puncture of left tube gives pus.

Laparotomy, January 18, 1890. Moderate adhesions. Left tube one-half inch in diameter; right tube as thick as an ordinary lead-pencil. Both contained pus. Ovaries normal. Both ovaries and tubes removed.

Patient subsequently confessed to me that her illness dated from a gonorrhœa. I thus had an opportunity to observe the gradual progress of the disease upward, invading successively the mucous membrane of the cervix, corpus, and Fallopian tubes, and resulting in double pyosalpinx.

Tubo-ovarian Abscess.—In one of the three cases of pyosalpinx and ovarian abscess of the right side, with normal or nearly normal left appendages, I was able to differentiate between ovary and tube, and to puncture the latter. In the other two I was unable to determine whether I drew the pus from the ovarian abscess or from the pyosalpinx. I subjoin notes of these two cases.

Case IV. *Puerperal Septicæmia; Tubo-ovarian Abscess of Right Side.*—A. W——, aged twenty seven, widow, was delivered of her first and only child on March 25, 1890, in a lying-in asylum of this city. The labor was difficult, necessitating the use of chloroform. She does not know whether instruments were employed.

Patient was admitted to St. Francis Hospital on April 10, 1890, suffering from well-marked puerperal septicæmia. Temperature, 103½° F. Perineum and cervix extensively lacerated. Uterus three and a half inches deep, normal in position, but limited in mobility by a large mass to its right, reaching well up into the abdominal cavity. This mass can be best felt from anterior surface of abdomen, being just beyond comfortable reach from the vagina. It is irregular, somewhat cubical in outline, three by four inches in size, its most prominent point being situated just above the level of the anterior superior spine of the ilium, and two inches within it. An exploratory puncture at this point gives thick, creamy pus at a depth of two inches from the surface. The mass was situated so high up that it might easily have been taken for a perityphlitic abscess. Not being able to differentiate tube and ovary, I could not tell from which of these organs the pus was derived.

Laparotomy, April 25th, in the presence of Professor Howard A. Kelly, of Baltimore, and Dr. H. J. Boldt, showed the tumor to be a large pyosalpinx and ovarian abscess of the right side. The appendix vermiformis was intimately adherent to its posterior surface, from which it was separated by the fingers. The thickened right tube, containing pus, coursed along the anterior aspect of the tumor. Right tube and ovary removed. Left appendages, presenting nothing abnormal, were allowed to remain. So fused was the entire mass with the right side of the uterus that it was impossible to make out a line of demarcation, and a portion of the uterine wall was removed with the diseased parts.

Case V. *Right Tubo ovarian Abscess.*—M. M——, aged twenty-two, married, no children, one miscarriage, was admitted to St. Francis Hospital, June 23, 1890. Up to her marriage, at nineteen years of age, she had been well. Shortly after marriage leucorrhœa began, and has continued ever since. Her husband had gonorrhœa in early married life. A miscarriage two years ago was followed by severe pains of a bearing-down character, and by pain and bleeding at each sexual act. Since her miscarriage has had an attack, similar to the present, about once every three months. Present attack began on June 18, 1890, with severe pains in lower abdomen, distressing bearing-down feelings, vomiting, fever, and tympanites. On admission she presented all these symptoms and was in a septic condition. Temperature, 103½° F.

On the following day examination under chloroform on account of the unbearable pain. Uterus normal in size, but crowded forward by a tumor reaching around behind it from one side to the other. The tumor was six inches long, three inches in diameter, and irregular in outline. Impossible to locate tubes or ovaries on either side. Exploratory puncture over the fundus uteri into the mass behind it proved negative. A second puncture, on the right side, one and a half inch above Poupart's ligament, yields pus. Exact derivation of pus uncertain.

Laparotomy, June 27th. Awful matting together of viscera. The omentum and small intestine, adherent over the front of the tumor, had been punctured by the needle. The right tube formed a pus-sac three and a half by one and a half inches in size. Behind it and the uterus, and adherent to both, was an abscess of the right ovary even larger than the pyosalpinx. After their removal no further induration could be felt in the pelvis. The left tube and ovary were buried behind adherent viscera, and, not being palpably enlarged, were left. I was unable to determine at the time of operation whether I had punctured the pyosalpinx or the ovarian abscess.

Of the three cases of double pyosalpinx with ovarian abscess of one side the pyosalpinx alone was diagnosticated in one case, the ovarian abscess not being detected until operation. In the other two cases the enlarged tubes were plainly mapped out by bimanual examination, and, in addition thereto, an enlargement and fixation of one ovary were recognized. Puncture was made into the latter and pus obtained. Puncture of the tube was not superadded, and a positive diagnosis of the pyosalpinx was not made in these cases, the presence of the ovarian abscess being held sufficient to indicate laparotomy, on the occasion of which the tubes would naturally be examined.

In both instances the diagnosis of ovarian abscess proved correct; curiously enough, however, the abscesses which had been diagnosticated as involving the left ovary were really situated in the right. The latter had prolapsed to the left side, and had become firmly attached there by inflammatory adhesions. I omit the histories of these three cases, as presenting nothing of interest beyond what I have just indicated.

The most recent case of tubo-ovarian abscess upon which I operated possesses features of collateral interest in connection with the subject of exploratory puncture.

Case VI. *Right Tubo-ovarian Abscess; Stenosis of the Aortic Orifice.*—M. C——, aged nineteen years, had been perfectly well up to the date of her marriage, two years ago. Since then she has suffered more or less from pelvic symptoms, the most prominent of which were leucorrhœa and pain on defecation.

Examination, October 4, 1890. Patient has a well-marked stenosis of the aortic orifice, as indicated by a harsh, systolic bruit, loudest at the base of the heart over the aortic valves. The pelvic organs being exceedingly tender, chloroform was very carefully administered, with a view to a thorough pelvic exploration. The uterus, normal in size and anteverted, is pushed slightly to left and forward by a small mass occupying its latero-posterior aspect on the right side. This mass is formed of the right tube and ovary, is about the size of corpus uteri, and on exploratory puncture is found to contain pus.

At this stage of the examination patient became deeply cyanosed and stopped breathing. The anæsthetic had already been withdrawn, and restorative measures were at once applied. After several moments of anxious suspense the patient resumed breathing and the cyanosis gradually disappeared. It was felt, however, that she had had a narrow escape.

On the following day I informed the patient of the fact that she was a sufferer from organic cardiac disease, and of the incident connected with the examination under anæsthesia. I imparted to her my diagnosis of her case, and that I knew of no way of curing her except by operation. The latter, however, I was not very anxious to under-

take, owing to the necessity of anæsthesia. I informed her frankly that, in addition to the ordinary dangers of the operation itself, she would run the risk of death on the table from heart disease. After a full day's consideration of the matter she declared, much against my expectations, that she was willing to take all risks, and requested me to perform the operation. Had I not been absolutely certain, beyond all peradventure, of my diagnosis of tubo-ovarian abscess—a certainty based upon the results of exploratory puncture—I would have refused to operate, at least for the present, under any circumstances.

The ovarian abscess and pyosalpinx herewith presented for your inspection were removed by laparotomy October 7, 1890. Ether was used as an anæsthetic, I need scarcely add in scant amount, and the operation was completed without accident.

Recovery was interrupted by an attack of acute pericarditis, which caused me considerable anxiety from the fourth to the ninth day, when it subsided. Since then progress toward convalescence has been disturbed only by an attack of acute general urticaria and the patient is now out of danger.

Ovarian Abscess.—I will report in detail a case of abscess of the right ovary, with normal right tube and left appendages. It is of interest because the palpable changes in the pelvis were so slight, almost indiscernible, that without the results of explorative puncture to indicate it I should not have considered laparotomy justifiable, and should have most emphatically refused to perform the operation.

Case VII. *Small Abscess of Right Ovary, with Tubes and Left Ovary Normal.*—A K——, aged thirty, married, one child; was admitted to St. Francis Hospital, May 10, 1889. Patient's history dates back two years, and began with a sudden sharp pain in right hip and right lower abdomen. Since then menstruation, before painless, has been very painful, although regular and otherwise unchanged. For six months past, bearing-down pains, burning sensation over hip, and shooting pains in right side, decidedly increased by motion. No leucorrhœa.

Examination under chloroform, patient being quite fleshy. Slight endometritis and hyperplasia of cervix and corpus. Left appendages and right tube normal. On right side, high up as the fingers can reach from vagina and rectum, above pelvic brim, an induration about one and a half inch in diameter can be made out, immovably attached to the posterior abdominal parietes. Exploratory puncture of this induration gives pus. Diagnosis, ovarian abscess of right side.

Laparotomy, May 30, 1889. Both tubes and left ovary perfectly normal. Right ovary embedded in multiform adhesions to all surrounding viscera. After exposing the ovary an attempt was made to separate it by tearing its posterior adhesions. In doing so, it ruptured and discharged its entire contents, not quite two drachms of pus, into the abdominal cavity. The diseased ovary was removed with the right tube. Left tube and ovary were not disturbed. The appendix vermiformis was found filled with a row of dense fecal concretions, tied off and removed. I herewith present the specimen, which will enable you to judge of the small size of the abscess.

As I have already stated, if the exploratory puncture had failed, which it luckily did not, to discover pus, I should have declined to operate, and thus have failed to restore to health and happiness a patient, when, as the result proved, it lay in my power so to do. I have, however, never as yet removed the ovaries or tubes, except for gross palpable lesions of these organs or in cases of uterine myoma. I have not, as yet, met the case in which I considered the removal of normal ovaries for the relief of nervous symptoms indicated or justifiable.

Hæmatosalpinx.—Leaving now the subject of suppurative disease of the appendages, I desire to call attention to some cases, not, however, verified by operation, in which a diagnosis of hæmatosalpinx was made by the aid of exploratory puncture, as well as to one case where a hæmatosalpinx was found at operation, although I had failed by exploratory puncture to diagnosticate its presence. This subject of the differential diagnosis between hæmato- hydro- and pyo-salpinx is of peculiar interest, as, except by the aid of exploratory puncture I know of no way in which it can with any degree of certainty be made. In fact, the diagnosis of hæmatosalpinx is considered impracticable by most gynecologists.

Case VIII. *Hæmatosalpinx (Tubal Pregnancy?) of Right Side.*—C. A——, aged twenty-two, married, no children, one miscarriage in May, 1889, came under my care January 14, 1890. Her previous history is unimportant. Has always been perfectly regular in her periods, flowing four days every four weeks, until November 8, 1889, when she menstruated regularly for the last time. Her periods did not appear when due in December, but two weeks later, December 22d, a flow came on which lasted until I first saw her. During the first week of this three weeks' flow there was considerable vomiting. During the entire period of three weeks, pain in abdomen, from umbilicus down, very severe at times and radiating down both thighs, was the chief and almost constant symptom. The pains were of a pressing and bearing-down character. The patient is unaware of the passage of anything but fluid blood from the vagina.

Uterus normal in size; cervix soft and slightly patulous; fundus deflected slightly to left. To right of uterus, high up in pelvis, an oblong, distinctly outlined tumor, three by two inches, with its long axis parallel to Poupart's ligament, can be readily made out. Left appendages normal. Right ovary, of normal size, can be felt in Douglas' sac. Right tube the seat of the swelling. Exploratory puncture of the latter yields a syringeful of bloody serum. Hæmatosalpinx, or pregnancy of the right tube, probably the latter, diagnosticated.

No particular treatment was urged for the present, as the removal of the serum from the gestation sac was considered sufficient to insure destruction of the fœtus, if the case were one of tubal pregnancy. If a case of hæmatosalpinx simply, laparotomy was not indicated.

Patient improved rapidly, went to Europe a month later, and at last report, September, 1890, had experienced no further symptoms. It will perhaps be conceded that the indications for laparotomy in the above case would have been considered sufficient by nearly all gynecologists, and imperative by many, and that the result of the exploratory puncture was the only thing that saved the patient from what proved to be an unnecessary operation.

I have on two other occasions, during the past eighteen months, made the diagnosis of hæmatosalpinx, based upon the finding, on bimanual examination, of an enlarged tube on one side, both ovaries and the other tube being normal, and the determination by exploratory puncture that the enlarged tube contained bloody serum. Unlike Case VII., however, there was in these cases no history pointing to a probable extra-uterine gestation. As the symptoms in neither case were urgent, non-interference and waiting were advised. Unfortunately neither of these patients returned after the first visit, and I was unable to ascertain what became of them.

In the following case a misinterpretation of the results of exploratory puncture led to a mistake in diagnosis, and to an unnecessary laparotomy, or, at least, to one which I should not have performed had I interpreted the findings correctly.

Case IX. *Left Hæmatosalpinx.*—G. S——, aged twenty, single, was well up to May 22, 1890. On that day she took a bath while unwell. The flow lasted three days longer than usual, and she experienced abdominal pains, which, together with pain on micturition, have persisted to date.

June 11, 1890. Uterus normal in size and position, but impeded in its movements by a slight exudation all around. On the left an enlarged tube can be felt prolapsed into Douglas' sac. Exploratory puncture over the

top of fundus uteri, into the swelling occupying the posterior cul-de-sac, gave negative results. A second puncture, more to the right, brought two or three drops of bloody serum. This was supposed, erroneously as it proved afterward, to have been derived from the peritoneal cavity.

Laparotomy, June 24, 1890. Recent serous peritonitis, with slight adhesions of pelvic viscera to each other and to intestines. A half pint of yellowish serum in the peritoneal cavity. Lying behind the uterus, in Douglas' sac, was a hæmatosalpinx of outer part of left tube two and one half inches long by one and one-half inch wide. Both ovaries and the right tube normal. The hæmatosalpinx ruptured on manipulation and discharged its contents, bloody serum, identical with that obtained on exploratory puncture. After rupture and evacuation of its contents the tube collapsed to about its normal size; the lips of the tear became nicely approximated. The abdomen was closed without removing anything except the yellowish peritonitic serum. The patient made an uninterrupted recovery and remained well.

Extra-uterine Pregnancy.—In the following recent case a diagnosis of tubal pregnancy, with rupture, was quite positively made at the first examination, and very materially by the aid of exploratory puncture.

CASE X. *Tubal Pregnancy of Right Side; Rupture; Tubal Abortion; Intraperitoneal Hemorrhage.*—On October 11, 1890, I was asked by Dr. George F. Carey to see, with him, at her home, Mrs. M. Y——, married, twenty-six years of age. In March, 1885, she gave birth to her only child. Has always been perfectly regular in her periods, flowing seven days every four weeks, until August 8, 1890, on which day her last regular period began. Her next period was due September 5th. She lost no blood, however, until September 10th, from which date until the present she has flown constantly. Crampy pains referred to the pit of the stomach and both iliac regions, and vomiting, at first in the morning, later on at all times of the day, were the other symptoms. Dr. Carey had discovered a swelling to the right of, and posterior to, the uterus, semi-elastic in consistency, and painful on pressure, which he strongly suspected to be due to an extra-uterine gestation. I verified the conditions above described. The uterus, of normal size, was crowded forward and to the left by the tumor situated to its right and posteriorly. I coincided with the diagnosis of tubal pregnancy of the right side, and with the kind consent of Dr. Carey, made an attempt to obtain further information by exploratory puncture. The needle entered the mass, and aspiration proved negative. While slowly withdrawing the needle, however, the vacuum in the barrel being maintained, and just as the point of the needle left the mass and became free in the peritoneal cavity, the syringe filled with thin, dark blood. An intraperitoneal hemorrhage, due to ruptured tubal pregnancy, was diagnosed. No symptoms of active hemorrhage being present at the time, the patient was transferred to hospital for operation.

Laparotomy, October 13th. Peritoneum contained about a pint of dark fluid blood, of the same character as that withdrawn by exploratory puncture, together with a handful or two of clots. Tumor, formed of a large firm clot, and of enlarged and ruptured right tube, occupied right side of uterus and Douglas' sac. The clot, a cast of the distended right tube, occupied the rent in the tube, and was situated partly in the tube, and partly in the free peritoneal cavity. Outer half of the tube enlarged, dilated, and hypertrophied. Inner circumference of enlarged portion varied between one and three-quarters and two inches; the rupture, about one and one quarter inch long, occupies anterior aspect of junction of middle and outer thirds of tube. Right ovary normal, but undersized. Clot removed. Ruptured tube and right ovary tied off and removed. Blood and clots removed from peritoneal cavity; free flushing of latter. Fœtus not found. Patient recovered without an unpleasant symptom. A microscopical examination of the tube and the clot contained in it, both of which I herewith present, failed to discover chorionic villi. The fœtus had either become absorbed in the peritoneal cavity, or had been washed out with the free fluid blood and clots.

I may be pardoned a few therapeutic considerations, upon which exploratory puncture has a bearing, in connection with this case. When the patient was first seen a tubal pregnancy of the eighth or ninth week, and, by exploratory puncture, the presence of free blood in the peritoneal cavity, were diagnosticated. There were at the time no indications of active hemorrhage going on. At the operation a pint of fluid blood and a handful or two of clots were found in the peritoneal cavity. The tube had ruptured and expelled the entire ovum into the peritoneum; in other words, tubal abortion had been completed, and the fœtus had perished in the abdominal cavity. There was no hemorrhage going on, and the coagulum which had finally closed the blood-vessels of the tube was in the process of extrusion from the latter.

On careful review of the case after operation, I could see no reason why the patient should not have recovered without laparotomy. The original cause of the hemorrhage had ceased to be operative; the fluid blood and clots in the peritoneal cavity would, in all probability, have been absorbed, either directly or after forming a hæmatocele. The ruptured tube would have undergone involution, and a tubo-peritoneal fistula, at most, would have been left to tell the tale of ectopic gestation. Without laparotomy, and with or without electricity, the patient would have gotten well.

The soundness of the recent advice of Olshausen[1] receives confirmation from this case. In cases of extra-uterine pregnancy in the first three months he urges immediate laparotomy (I would venture to substitute electricity, or perhaps simple puncture and aspiration of the amniotic fluid as in Case VIII.) if the case be diagnosticated *before* rupture; *after* rupture laparotomy should be performed only when the symptoms are extreme, and when the surroundings and conditions are such as to guarantee the possibility of an aseptic operation.

Exploratory puncture enabled me, in the above case, to diagnosticate a free intraperitoneal hemorrhage, which, coexisting with the symptoms and signs of a tubal gestation, indicated plainly that rupture had taken place. This fact is of value when we consider that we have no other positive sign of the presence of blood free in the peritoneal cavity.

One or two other practical considerations arise in connection with the case. Was it necessary, when performing laparotomy, to extirpate the recently pregnant, ruptured, and now cleanly empty tube? Could it not, with perfect safety to the patient, have been left to take care of itself, with or without freshening and suture of the rent through which the fœtus escaped? I am inclined to answer the latter question in the affirmative. Should I meet again with an identical case, I shall empty the peritoneum of clots and blood, and after assuring myself, by the passage of a probe, of the perviousness of the uterine end of the tube, I shall freshen and sew together the margins of the rent in the tube, drop the latter, and close the abdominal cavity.

Hydrosalpinx or Small Cystoma.—In the following case exploratory puncture led me to diagnose the existence of hydrosalpinx, or of a small cystoma, and, knowing that these conditions sometimes disappear spontaneously, to decline operative interference for the time being. The symptoms were not too urgent, there seemed to be no danger in delay, and the patient could be watched.

CASE XI.—E. W——, aged forty-seven, married, gave birth to eight children, the last in 1879, and miscarried with twins in 1880. Patient was well, and periods were regular, until May 15, 1890. On that day metrorrhagia, with passage of clots, and colicky pains came on, and lasted until she came under my care on June 14th. Fre-

[1] Deutsche Medizinische Monatsschrift, 1890, Nos. 8–10.

quent and painful micturition accompanied these symptoms. Has not indulged in sexual intercourse for three years past.

Uterus normal in size and position. To its left, and posteriorly, can be felt an elongated mass, half as large again as the uterus itself, irregular in outline, soft, though not fluctuating.

Exploratory puncture yields a syringeful of pale amber-colored fluid, which froths on pouring into a test-tube, and is decidedly albuminous.

Diagnosis doubtful between small cystoma and hydrosalpinx, the character of the fluid pointing to the former, the shape to the latter.

Small Parovarian Cystoma.—During my experience with exploratory puncture I have encountered two cases of small cystomata of the parovarium. In one the diagnosis of parovarian cystoma was reached as the combined result of careful bimanual examination and of exploratory puncture, and confirmed by abdominal section. This statement embraces all of importance and interest in the case, and I shall therefore not describe it in detail. In the second case the diagnosis was not made, and as it illustrates well a possible source of error, already alluded to in the practice of exploratory puncture, I venture to give the particulars.

CASE XII.—C. M——, aged thirty-six, married, and the mother of seven children, was admitted to St. Francis Hospital, November 7, 1889. She has been under treatment, local and general, for eight years. During the past four years has been a constant sufferer from all sorts of aches and pains, being thereby, although of robust frame, entirely incapacitated for work. Her chief pain has been in the left iliac region. Her last regular period ended October 17, 1889.

Examination, November 10, 1889. Uterus of normal size; cervix extensively lacerated in various directions. A tumor with distinct outlines, and goose egg in size and shape, can be palpated in left ovarian region. Exploratory puncture of tumor with negative results.

After several weeks of general and local treatment, without improvement, laparotomy was performed on December 3, 1889. Fat abdominal walls. Uterus slightly enlarged. Both tubes and right ovary perfectly normal. Left ovary, enlarged to twice its natural size, forms one mass with a small parovarian cyst of the broad ligament. Cyst punctured and fluid evacuated. Nothing removed. Abdomen closed. In performing exploratory puncture the needle had entered the solid half of the tumor, composed of the ovary, instead of the fluid half, the attached parovarian cystoma.

February 5, 1890. Examination shows patient to be pregnant about three and a half months, and consequently to have been pregnant six weeks at the time of operation. Pregnancy went on undisturbed.

The Appendages in Fibroma Uteri.—Quite recently exploratory puncture decided for me a question of practical therapeutics in a case of uterine fibroma, the choice lying between electricity and salpingo-oöphorectomy.

CASE XIII. *Uterine Fibroid impacted in Pelvis; Adeno-epithelioma of Tubes and Ovaries.*— E. S——, aged forty-five, single, suffering from uterine fibroma, was sent to me by her family physician with a written request to continue a course of electrical treatment initiated and carried on for several months past, but without effect, by the family physician. A preference for electro-puncture was expressed in the note.

The patient was anæmic and cachectic in appearance, and gave a history of severe suffering for eight months past; had no abnormal hemorrhages. Her last menstruation occurred July 6, 1890, and was trifling in amount; she supposed herself to have reached the menopause.

On examination, October 10, 1890, the cervix is found forward of its normal position and low in the vagina. Uterus two and a half inches deep, the sound running anteriorly. A fibroma, a little over three inches in diameter, occupies the posterior wall of cervix and of body of uterus, and is immovably impacted in the pelvis beneath the sacral promontory. Pelvic cavity pretty well filled by uterus and fibroma. Both ovaries can be distinctly felt in about their normal position; they feel slightly enlarged and hard. Between uterus and left ovary a soft, fusiform enlargement, about twice the size of left ovary, can be felt. Exploratory puncture into this mass yields bloody serum. Right tube slightly thickened. The appendages being diseased, as evidenced by both bimanual examination and exploratory puncture, electricity was held to be contra-indicated and laparotomy called for.

Laparotomy, October 14, 1890. A pint of ascitic fluid in the peritoneal cavity. Both ovaries and tubes the seat of neoplasmic changes of a papillomatous appearance. On the right side the growth had infiltrated the peritoneum and subperitoneal tissues of the posterior pelvic wall. In removing it from this region the right ureter was laid bare for over an inch of its length, and alarming hemorrhage ensued. Ovaries and tubes on both sides tied off and removed. Hemorrhage controlled by packing left half of pelvis with iodoform gauze, the fibroma forming an excellent surface for counter-pressure. The fibroma could not be raised out of pelvis and was left unmolested. In the folds of the left broad ligament were three or four small cysts, pigeon-egg in size and shape, and containing bloody serum. One of these had been punctured by the exploring needle. A careful microscopical examination of the growths, kindly made by Dr. Eugene Hodenpyl, showed them to be adeno-epithelio-mata. Dr. Hodenpyl believes them to be good examples of malignant disease engrafted upon ordinary cyst-adenoma.

Tuberculosis of Tubes and Peritoneum.—I have practised exploratory puncture in two cases of tuberculosis of both tubes, associated with general tuberculosis of the peritoneum. In one of them exploratory puncture gave absolutely no information; in the other it furnished evidence of a circumstantial nature which proved in some degree contributory to a correct diagnosis.

CASE XIV.—R. S——, aged twenty, single, admitted to St. Francis Hospital, July 8, 1889. Father and three sisters living; mother and one brother died of consumption. Patient dates her illness from April, 1889. Pains in lower part of abdomen the chief complaint. No cough, and but little cachexia or emaciation.

Examination shows both tubes to be decidedly and irregularly enlarged, averaging about the thickness of little finger. Exploratory puncture of both tubes with negative results.

Laparotomy not entertained at first. While under observation the tubal tumors very rapidly increased in size until they were one and a half inch in diameter; there was corresponding increase in pains and irregular fever. Rapidly filling pyosalpinx diagnosticated (without a second exploration by puncture) and rupture feared. Operation now advised. Tuberculosis not suspected.

Laparotomy, July 24, 1890. Tuberculosis, far advanced, of entire peritoneum. Primary tuberculosis of both tubes. No ascites. Abdomen closed without removing anything but a small piece of peritoneum for microscopical examination. The latter demonstrated the presence of the bacillus tuberculosis.

CASE XV.—A. G——, aged thirty, married, mother of seven children, came under my care April 28, 1890. Family history indifferent. Formerly suffered from some uterine displacement for which she wore a pessary. Present illness dates from February, 1890. It began with stabbing pains in right groin, which soon became general all over the abdomen. These pains have kept her in bed for two months past. Appearance that of a person greatly run down in health; anæmic, emaciated, listless, and cachectic. Mild pyrexia.

Abdomen tumid, irregular in outline. Tympanitic resonance on percussion everywhere except low down in right flank. Uterus normal in size and position; mobility impaired. In region of right tube an elongated in-

duration, about two inches long, can be felt. Left tube enlarged to about half this size. Douglas' pouch boggy to feel. Two or three enlarged sacral glands are found in the hollow of sacrum behind rectum. Spleen considerably enlarged and very hard, can be distinctly felt reaching downward to two inches below the costal margin. At various parts of the abdomen a few small nodular masses can be felt behind the thin abdominal walls and moving with them. Exploratory puncture of tubes negative. Puncture into retro-uterine space on two occasions, May 5th and May 16th, gives yellowish serum. Although especially examined for their presence, no bacilli tuberculosis were found in this fluid. The exploratory puncture, however, revealed the presence of ascitic fluid in the peritoneum before it had accumulated in sufficient quantities to be detected by other signs. The discovery of this fluid, coupled with the general symptoms and the nodular indurations of the parietal peritoneum, led to the diagnosis of tuberculosis of the tubes and peritoneum. This diagnosis was confirmed by laparotomy, May 24, 1890.

Small Cystic Degeneration of Tubes and Ovaries.—I have removed the ovaries and tubes once for extensive small cystic degeneration of these organs. In this case exploratory puncture had been performed with negative results and had failed to throw any additional light upon the case.

Malignant Disease.—Quite recently exploratory puncture aided me materially in reaching a diagnosis of malignant disease forming a tumor of small dimensions. The subject is of sufficient general interest, perhaps, to warrant my reporting the case somewhat in detail.

CASE XVI. *Carcinoma of Posterior Wall of Caput Coli, Involving the Appendix Vermiformis and Right Ovary.*—M. S——, aged forty-two, married, gave birth to her only child in 1872. Has not been quite well since November, 1889. Pains in the right groin and in back, and more or less looseness of the bowels have been the main symptoms. States that she has lost considerable flesh, although at present not noticeably emaciated or cachectic in appearance.

September 18, 1890.—Uterus at normal height in pelvis, two and a half inches deep, immovable; fundus turned slightly to right. A hard, oblong tumor, of an average diameter of perhaps three inches, runs from middle of right Poupart's ligament over fundus and anterior surface of corpus uteri to left iliac region. Its right end is fixed, its left end freely movable in the abdominal cavity. Fundus uteri embedded in and immobilized by this mass. Exploratory puncture at two different points fails to find fluid. The needle, however, in traversing the tumor, gives rise to an exceedingly well-marked creaking sensation, identical with the characteristic creaking produced on cutting through a carcinomatous tumor with the knife. In my entire experience with exploratory puncture, I had never met with anything approaching this sensation. It impressed me as so characteristic that I had no hesitation in pronouncing the tumor malignant, and from the history of the case, as probably connected with some portion of the intestinal tract.

Laparotomy, September 23, 1890, verified the diagnosis. A carcinomatous tumor about two by two and a half inches in size occupied the posterior wall of the caput coli. It involved the appendix vermiformis, the right ovary, and somewhat more than the outer half of the right Fallopian tube. The intestines and omentum were matted together over the mass and around the fundus uteri. The carcinoma had so far involved the neighboring tissues and organs that an attempt to remove it was considered unjustifiable, and the abdomen was closed.

The above are some of my experiences with pelvic exploratory puncture guided by combined vaginal and rectal touch, as I would venture to designate the method. In presenting them, I have only utilized such cases of which I possess full records, and in which either a subsequent laparotomy, or observation of the further progress of the case, furnished data for an estimate of the value of the method. The method has, a number of times in addition, materially aided me in reaching a diagnosis and conclusions in regard to a case satisfactory to my own mind. But as such patients either disappeared from observation, or the diagnosis was not confirmed or disproved by laparotomy, I have not deemed them proper cases for the purposes of this paper.

As to the practical value of the method, each one, after an analysis of the above-recorded observations, will be in a position to reach his own conclusions. I have endeavored to refrain from presenting the favorable aspects of the matter in too strong a light, and have preferred to record more fully, and dwell at greater length upon instances demonstrating the shortcomings and the failures, more or less complete, of the method. I have done this believing that here, as everywhere, more is to be learned from an analytical study of our failures than from a mere rehearsal of our successes.

This much I think I may, in all fairness, claim for the above-described method of pelvic exploratory puncture: It has yielded me information of a very practical character in a number of cases, without ever doing the least harm to any of my patients. Not one of us can afford to disregard any means which will help to throw additional light upon a case, and thus enable him to do better for the patient who has entrusted her health, and often her life, to his hands.

The one consideration, however, from which I derive greater satisfaction than from any other, is that exploratory puncture has, in some of my cases, taken the place of, and rendered unnecessary, an exploratory laparotomy. Laparotomies have become such a daily, common occurrence that there exists the danger of losing sight of the fact that a number of simple exploratory laparotomies have proved fatal. Abdominal section is always a serious matter, and I cannot help being amazed at the flippancy of him who can find in any intrapelvic enlargement, with ever so slight or even no symptoms, the indications for a laparotomy, be it exploratory or otherwise. If the further elaboration of this method, and its trial at the hands of others with larger opportunities, will result in sparing some of their patients, as it has some of mine, the ordeal and risks of exploratory laparotomy I shall feel that my main object in writing this paper has been accomplished.

It must be evident from a perusal of the above that pelvic exploratory puncture, as here delineated, aspires to the dignity of a somewhat exact and scientific procedure. It presupposes not a puncture at random into the pelvis, but an attempt to guide the needle into the exact part to be explored, nay, approximately into any desired portion even of such part. It must be evident also that it is not a procedure to be practised indiscriminately by every one. A *sine quâ non* of its safe and successful employment is the possession of a fair degree of skill and experience in bimanual palpation of the pelvic organs. Perfection in this regard we may never hope to attain. There will always be cases which will baffle the greatest diagnostic acumen. Still I would, as a last injunction, urge that the method be attempted only by those whose tactile sense is sufficiently educated by daily practice to enable them to apply it with the greatest probability of attaining good and of avoiding mischief. Finally, to even such, I would say, as a parting word: Perfect asepsis, immobility of the needle, and resistance of the temptation to bore about in the tissues are the guarantees of safety.

198 SECOND AVENUE.

"**Would** any shock, at this stage of my trouble, cause a relapse, doctor?" inquired the patient. "Yes, and a serious one." "Please then, doctor, to remember that important fact in making out your bill."

A NEW RAPID TUBERCLE BACILLUS STAIN.

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THE necessity of making the staining of the tubercle bacillus so simple and rapid that the process can be carried out by anyone has led to many improvements in the original methods of staining this organism.[1] Undoubtedly the greatest advance was made with the Ziehl Neelsen carbol-fuchsin solution; with it we not alone lessened the duration of the process but, what was equally important, we obtained a stable reagent which could be kept unchanged for months, and thus did away with the rather clumsy anilin-water staining solutions. Another advance was marked by the introduction of Günther's acid methylen-blue solution, by which the non-tubercular organisms were decolorized and differentially stained. Recently the technique of these methods has been improved and much time saved by doing everything on the slide, the covers, glasses, and dishes being superfluous. We refer to the method of Friedländer as announced in the *Therapeutische Monatshefte*, August, 1890, page 423. His method is as follows: the sputum is selected as usual and is spread with a clean needle or pair of forceps on a thoroughly cleansed glass slide in a thin layer till it covers a space about as large as a nickel. While this preparation is drying in the air, a second slide is prepared in a similar manner. Then draw the first preparation through the flame three times as usual. Now add to the slide two to three drops of Ziehl's carbol-fuchsin solution.

Sat. alcoholic sol. of fuchsin	10.0
Acid. carbolic. cryst.	5.0
Aq. destill.	ad. 100.0

Hold the slide over a flame, specimen side up till steam begins to come off; pour off excess of stain, and draw slide through a dish of distilled water. After draining off excess of water, add a few drops of acid alcohol solution.

Acid. nitric. pur.	5.0
Alcohol (eighty per cent.)	ad. 100.0

Allow it to act about thirty seconds, *i.e.*, till specimen is decolorized; then wash in water again; now add a few drops of a saturated watery solution of methylen blue; put slide aside without warming till we have proceeded thus far with the second preparation. Now again wash slide with water, drain off excess of water with filter paper, and allow it to dry. When dry, put a drop of cedar oil directly over the stained specimen (a cover glass is unnecessary) and examine specimen directly with oil-immersion lens. In the absence of the latter, a dry lens with magnifying power of about four hundred to five hundred diameters will suffice. If the focal distance is very small, or if the observer is not very skilful, the use of a cover glass is advisable. The careful examination of two such preparations will usually be sufficient to judge the sputum.

To recapitulate, the steps of the process are as follows: 1. Preparing smear on slide. 2. (α) Drying in air; (β) drawing through flame three times. 3. Two to three drops of Ziehl's carbol-fuchsin solution added to slide, and heated till steam comes off. 4. (α) Washing in water; (β) decolorizing with acid alcohol; (γ) washing in water. 5. Differentiating with aqueous solution of methylen blue. 6. Washing in water, and drying; clearing up with cedar-oil.

We have used this method and have obtained very satisfactory results with it, fully as good as those obtained with any of the other procedures. It is rapid, clean, and there is a minimum of dirty dishes, etc. In all the old methods duplicate smears are made on cover glasses, while here we can obtain a much larger area of the sputum for examination by spreading each one separately. These advantages are sufficient to commend its use, although it offers no new principles of staining the organisms.

We may be pardoned if we speak of a few details. It is advisable, though not absolutely necessary, to allow the fuchsin to act longer than is proposed, since we thus lessen the risk of decolorizing too much with the acid. It is convenient, then, to use a large amount of the stain (say five to six drops) to allow for evaporation, and after heating to put it aside on a level surface, while in the meanwhile we take up the second slide and bring it to the same stage. In warming no more heat is to be applied than will just cause steam to arise; if overheated, the specimen will be ruined. Filtration of the reagents, especially such as have been kept for some time, is absolutely necessary, and at the same time affords a very convenient way of adding solution to the slide. While it is quicker to dip the whole slide in a dish of water to wash off any excess of stain, yet a neater way is to use a wash bottle with distilled water; this also saves changing the water in the dish later on.

The method may also be simplified by using the acid methylen-blue solution, and thus combining steps 4 and 5 into one. We may use the ordinary formula:

Methylen blue	2.5
Alcohol	20.0
Acid. sulphuric.	25.0
Aq. destillat.	ad 100.0

In using this solution, allow it to act thirty to sixty seconds, wash off at once, and dry as before.

941 MADISON AVENUE.

[1] The full literature on this subject will be found in Flügge's Mikroorganismen, p. 15 (2d edition), and Weichselbaum, in Centralblatt für Bacteriologie und Parasitenkunde, vol. iii., 1888, pp. 496-750.

Progress of Medical Science.

The Permanent Tube in Cancer of the Œsophagus.—Cases are reported by Dr. Gangolphe, in which the sound remained in the œsophagus for four, five, and even six months. Food was thus easily administered to patients, whose lives were thus prolonged and rendered more comfortable. In the following case the patient carried both a tracheal and an œsophageal tube at the same time. A woman, aged forty-five; tube No. 5 passed into the œsophagus on December 19th; cachectic and emaciated. She was unable to swallow solids. Liquids regurgitated with mucus. Unsuccessful attempts to pass bougies and tubes, as violent muscular spasm was induced, even by a finger in the pharynx. Under an anæsthetic, a stricture was made out at the junction of the pharynx and œsophagus, and by patience and care a No. 5 tube was passed into the stomach. Feeding was now easy, and soon No. 8 was passed, then No. 12. On January 12th, No. 16 was passed, then No. 20; but these sizes were found to be too large to be supported, and No. 8 was returned to. The patient improved in health. On March 2d, dyspnœa occurred with suffocative attacks, and it was supposed that the recurrent nerve was involved by the tumor. Tracheotomy was performed, and the patient now carried two tubes; a tracheal and an œsophageal. All went smoothly for some time, but on May 19th, seventy-three days after the tracheotomy, she died suddenly in the middle of the night, owing to the falling in of the tube into the trachea. But for this accident she would have lived much longer. The autopsy revealed a tumor at the upper end of the œsophagus, involving both recurrent nerves. It was not ulcerated; the neighboring parts were not inflamed. Tubage has given better results than gastrostomy, even in the severest cases when liquids could not be swallowed. The indications for permanent intubation are variable. It has been called a blind procedure, anti-surgical, dangerous. This cannot be said of intubation in recent cases of cancer of the œsophagus, when liquids are still swallowed easily, still less when the course is rapid, and there is much spasm. Not only

must the caprices of the œsophagus be borne in mind, but also the hand of the operator. Patience, perserverance, and gentleness are absolutely necessary to triumph over all the obstacles. Even in old cases, with feeble subjects, and when there is complete dysphagia catheteri zation should be tried. In many such cases the stricture is found post-mortem to admit the passage of a larger tube than was expected. The great point to insist on is the use of intubation at an early date, before emaciation, dysphagia, and extreme cachexia have set in, and when the operation is easy and inoffensive, and the sound is well tolerated. The patient will always prefer this to catheterization. Sometimes the catheterization has to be intermittent, according as it is tolerated. If the trachea and bronchi are involved, as shown by the attacks of coughing, and the sanious and fetid expectoration, there will be risk of passing the sound down the trachea.—*The London Medical Recorder.*

Vomiting of Obscure Origin in Children.—Dr. Joseph Stedman read a paper before the Obstetrical Society of Boston, calling attention to cases of persistent vomiting occasionally met with in young children, where the etiology is obscure, and where the resultant exhaustion may become a source of much anxiety to the physician. He reports several cases which resemble each other in their general features. There is no gastritis, no fever, but the pulse may be somewhat elevated. The vomiting is severe and most persistent, and is usually sudden in its inception; the bowels may be constipated. Medical treatment seems to be of little avail, and the vital forces are rapidly reduced. The writer knows of no explanation for this save that offered by Dr. Rotch, who was called in consultation in one of his cases. The cause for the vomiting appears to be outside of the stomach, rather than from some direct lesion in the stomach. This leads to the impression that the vomiting is cerebral, and for this reason an unfavorable prognosis is sometimes given, though the face of the child is not that of cerebral disease, but of distress from nausea. Rotch believes the seat of the irritation will be found to exist in the great abdominal ganglia of the sympathetic system. Certain individuals seem to have an idiosyncrasy for being affected in this way. The causes which precipitate the attacks seem to be sudden changes of temperature, fright, shock from a blow on the epigastrium, and excitement, either direct or from anticipation. The disease occurs in infants as well as children; the breast-fed as well as the artificially fed, and in children whose diet has been most carefully supervised. The first indication for treatment is, of course, absolute rest; the room should be quiet and sunny, and the patient subjected to as little disturbance as possible. No food should be given by the stomach, occasional nutritive enemas of peptonized milk or Valentine's meat juice being given instead. Small doses of chloral and bromide of potash may be given by the rectum to procure sleep and stimulate the nervous centres. The recovery is often as sudden as the onset of the disease, but relapses occasionally take place. When the child commences to take food by the mouth, it is well to proceed cautiously and systematically, not only quantity but quality being considered. The nervous system must be carefully watched, and all excitement forbidden until the patient is well and strong, or in its normal condition once more.—*Annals of Gynæcology and Pædiatry.*

Cannabis Indica in Gastric Disorders.—After a full discussion of the forms of indigestion that are recognized, and the use of cannabis indica in their treatment, Dr. Sée arrives at the following conclusions: 1. The most convenient form in which to employ the drug is the extract in doses of about three-quarters of a grain daily, divided into three portions. Above this dose the drug is apt to produce unpleasant effects. (The French extract is stronger than the English.) 2. The drug was chiefly tried on the non-organic affections of the stomach. These were divided into two groups. The first included cases in which the gastric juice was altered in composition, especially if there was an excess of hydrochloric acid. The second group consisted only of cases of gastro-intestinal neuroses, in which there was no change in the digestive juices. 3. All these affections—dyspepsias and neuroses—were characterized by five sets of symptoms, occurring in various proportions. (*a*) Pain, local or radiating, arising spontaneously or after food. The variations in appetite belong to this group. (*b*) Atony of the stomach, with or without dilatation, is almost always present. Vomiting is more frequent in the neurotic cases. (*c*) Flatulence and eructation occur in most cases; in the neuroses the gas consists chiefly of air which has been swallowed; gases formed by decomposition arise from lactic or acetic acid fermentation, and not from excess of hydrochloric acid. These gases are the cause of the painful symptom known as "heartburn." (*d*) The gastric digestion of flesh food and albuminoids is little affected when hydrochloric acid only is in excess, but it is deficient when too much lactic or acetic acid is present, and completely in abeyance when there is deficiency of acid. In the neurotic cases gastric digestion is normal. Constipation is the rule in most cases. (*e*) In this last group are placed the varied symptoms—giddiness, migraine, palpitation, agoraphobia, etc. 4. Cannabis indica gives relief from pain and increases the appetite in all cases, no matter on what causes the pain and loss of appetite may depend. If, however, too much hydrochloric acid be excreted, it is better to aid the action of the drug by large doses of bicarbonate of soda, given about four hours after food. Cannabis indica has no beneficial action on the atonic state of the stomach, but it relieves vomiting and cramp of the stomach. The drug has no direct influence in checking flatulence, but it aids the expulsion of the gas and diminishes heartburn. The digestion of food is improved, if the failure depends upon neuro-paralytic conditions, or is rendered painful by an excess of acid, but no improvement is produced if the disorder is caused by a want of acid. As regards the other symptoms—giddiness. sleeplessness, palpitation, and the like—some relief is generally experienced by the use of this drug, but no alteration for the better is noticed in the hypochondriacal, hysterical, or neurasthenic conditions. In short, cannabis indica may be said to be a true sedative to the stomach, without causing any of the inconveniences experienced after the administration of opium, chloral, or the bromides. It should be combined with the use of alkalies in large doses and with mild aperients.—*The Lancet.*

Amputation for Diarrhœa.—Velpeau had once in his service a poor devil attacked with a suppurating white swelling of the knee-joint, which had caused the patient to have an uncontrollable diarrhœa. The limb was useless, and amputation was performed on the axiom "*sublata causa*," etc. The intestine recovered its good health and reposed from its past fatigues. Some days after the operation the eminent surgeon, showing the patient to the pupils following, said, with his characteristic bantering humor: "See, gentlemen, how the amputation of a leg can cure chronic diarrhœa!" A strange physician present made careful notes of all the great surgeon's remarks, and at the close of the hospital visit approached Velpeau and spoke as follows: "Sir, in the place I come from I have a patient whose diarrhœa has lasted for fifteen months, and cannot be checked. I have employed all known remedies and failed. To relieve him of his malady I shall cut off one of his legs as soon as I return home."—*Lancet Clinic.*

The Best Way to Cover the somewhat strong and disagreeable odor of naphthalin is to sublime it together with a little gum benzoin or benzoic acid. The desired effect is produced by simply mixing the two substances together.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

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PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place

New York, November 22, 1890.

THE PULMONARY CIRCULATION AND THE TREATMENT OF HÆMOPTYSIS.

IN the Harveian Oration for the present year, delivered by Dr. James Andrew, some facts of extreme interest are brought to the attention of the practitioners of medicine. Dr. Andrew takes for his subject the relations of physiology to medicine, and as illustrative of this relation he gives us some results of his investigations upon the pulmonary circulation.

He begins with a statement of the present unsatisfactory condition of our knowledge and therapeutic resources in regard to hæmoptysis.

This is a list of the remedies for this trouble given in a standard text-book on therapeutics:

"Acetic acid, aconite. alum, ammonium chloride, arnica, astringent inhalations, barium chloride, chlorodyne, chloroform to outside of chest, copaiba, copper sulphate, digitalis, dry cups to chest, ergot and ergotinin, ferric acetate, ferri persulphas, gallic acid, hamamelis, hot-water bag to spine, ice, ipecacuanha, iron and absolute rest, lead acetate, matico, morphine, opium, phosphoric acid, potassium bromide, potassium chlorate, potassium nitrate, pyrogallic acid, silver oxide, sodium chloride in drachm doses, subsulphate of iron, sulphuric acid, tannin, tr. laricis, turpentine, veratrum viride."

"Now, on looking through a long list like this," says Dr. Andrew, "one's first and last thought is that it gives us a very good illustration of the truth of the old axiom that, when many drugs are supposed each to cure one and the same disease, we may safely hold that few, if any of them, have the least influence over it."

There is no positive proof that a single drug on the list does any good whatever. Furthermore, many of the remedies are based upon entirely erroneous chemical or physiological views.

The pulmonic and systemic circulations are in reality independent to a great extent. We cannot judge of the pulmonary circulation by the pulse at the wrist, as is often attempted. The pulmonary pressure is in lower animals from one-third to one-fifth lower than the systemic. It is under vaso-motor control to a less degree, and this vaso-motor control is not affected in the same way or by the same agencies as that of the systemic vessels.

Dr. Andrew reports the results of a series of experiments for the purpose of determining the simultaneous action of certain drugs upon the pulmonary and systemic pressure. These are so striking that we quote several of them in full.

Muscarin in a small dose causes rapid fall in carotid pressure, and a striking rise in pulmonary pressure (in rabbits.)

Nitro-glycerine.—In the cat $\frac{1}{60}$ gr. produced a temporary great fall of the carotid, with a slight rise of the pulmonary pressure. When, however, the carotid fall had reached its lowest point the pulmonary pressure also fell. The carotid pressure then rose, but not to the normal figure. At the beginning of this rise the pulmonary pressure showed some tendency to fall, but remained nearly constant. In the dog $\frac{1}{60}$ gr. produced a primary fall in the carotid, with little or no effect on the pulmonary pressure. A subsequent gradual rise of the carotid pressure then took place, with a very slight fall of pulmonary pressure during the greater part of the rise.

Digitalis.—Digitalin caused steady rise of blood pressure both in carotid and pulmonary arteries, with great slowing of pulse. Tinct. digitalis: In dogs, slight fall in carotid pressure following soon after injection. At this time practically no effect on pulmonary pressure. Following this a steady rise in both pulmonary and carotid blood pressure. Inf. digitalis: In cats, primary rise in blood pressure both in carotid and pulmonary arteries, followed by slight but more permanent rise. (The primary rise here was probably due to the fact that a large quantity of fluid had to be introduced, as the same result followed the injection of a similar quantity of water.)

Tinct. Strophanthi.—In cats, a small dose (namely, ℥ j.–ij.) produced a primary fall of pressure in both carotid and pulmonary arteries, and a subsequent rise in pressure almost up to normal; heart at same time slow and irregular. A large dose produced first a great rise of carotid pressure, the pulmonary pressure sinking at first and then rising slightly. Then great quickening of heart with steady fall of pressure in carotid; the pulmonary falling to, but not below, its original level.

Ergot produces primary rise in pulmonary, with simultaneous fall in carotid pressure. This rise, however, is of short duration. Subsequently both pressures rise.

Aconite produces fall in pressure in both carotid and pulmonary arteries.

Strychnine, in both carotid and pulmonary arteries produced a rise in pressure, especially marked in the pulmonary.

Chloroform.—Both pressures fall together.

Ether.—Both pressures rise together.

Atropine (*Sulphate*) produces first a steady fall in carotid pressure, the pulmonary sinking at the same time but in much less degree. During this period the heart is slowed and the vagus nerve is excitable. Next pressure rises in both, and pulse becomes more frequent, the inhibitory power of the vagus being gradually abolished. When the pressure reaches its highest point, the heart cannot be stopped by stimulation of the vagus, and a second dose of atropine will have no further effect.

The conclusions drawn from these experiments are not very definite; but they show that a drug which increases or lowers systemic pressure may have no effect on the pulmonary pressure. They show that if the systemic pressure rises, then the pulmonary pressure also rises; if the systemic pressure falls, then the pulmonary

may either rise or fall. But this is only true of the primary effect of the drug, for among the later effects, for example, in the case of amyl nitrite, and to a less extent in that of nitro-glycerine, the pressure in the pulmonary artery may fall while that in the carotid is rising.

It is suggested, finally, that aconite rather than ergot would have the most effect in pulmonary hæmoptysis.

Dr. Andrew has certainly opened up a very interesting field for further research.

THE ETHER HABIT.

THE descriptions given by Mr. Ernest Hart regarding the practice of ether-drinking in Ireland have excited a great deal of attention. The habit, in certain parts of the country, seems to be very prevalent and very harmful in its effects. In two small villages, for example, two tradesmen are known to sell over five hundred gallons annually. It is sold by manufacturers at the rate of about seventeen cents a pound, or about a cent an ounce, and its retail price makes it the cheapest of intoxicating liquors.

The stuff is bought of grocers and druggists, and is drunk in doses of two to four drachms, though experienced drinkers by holding the nose can take more. It is generally drank pure, though some add water or take a preliminary mouthful of excipient.

A single draught produces intoxication in one not used to it; but regular drinkers can take six or seven.

The immediate effects of drinking ether, says Mr. Hart, are similar to those produced by alcohol, but everything takes place more rapidly; the stages of excitement, mental confusion, loss of muscular control, and loss of consciousness follow each other so quickly that they cannot be clearly separated from each other. It is only the "immoderate" ether drinkers who drink themselves into stupor; many are content not to go beyond the stage of exhilaration, when they become very talkative and laugh hysterically. The effect wears off almost as speedily as it comes on.

With regard to the more remote effects of ether, there is not much to be said. Very little appears to be known by pathologists of any injurious effect it may have on the tissues. There are no gross lesions like the shrinking and induration of brain and liver characteristic of alcohol; ether is a thief that steals away the brains without leaving any visible mark of his presence. Mr. Hart made special inquiries as to its effect on the health, and, so far as "moderate" drinkers are concerned, there did not seem to be any evidence that the habit produces anything more than chronic gastritis and dyspepsia. With regard to the worst cases, however, a careful observer writes: "In ether drinkers who have long followed the habit I have seen general debility, great nervous prostration accompanied by tremors (muscles of neck and forearm mainly affected), indigestion, irregular action of heart, subacute gastritis, a peculiar white, sallow complexion, and in some cases (personally observed) a peculiar livid, cyanotic face."

Dr. Walter Bernard notes the following among the injurious effects on health which ether-drinking gives rise to: "Absence of subcutaneous fat, muscular wasting, feeble circulation, pale lemon and brown colored skin, reflexes exaggerated, especially knee-jerks." One terrible effect of ether-drinking is the profound degeneration of the moral character, which it often induces.

Ether-drinking prevails to a certain extent in this country, but it probably never will be popular as long as American whiskey is cheap.

"THE KOCH CURE FOR TUBERCULOSIS."

THE news during the past week regarding Koch's cure for tuberculosis has in the main confirmed our predictions as to its nature. It is not strictly a germicidal lymph, but practically it amounts to the same thing, for its curative powers depend upon its specific action upon the bacillus and its products.

Hence we can only repeat what Koch himself admits, that it can cure the first stages of phthisis only, and can have no great effect alone upon the secondary and suppurative processes.

It is somewhat curious also that so much stress is laid upon its curing lupus. Now lupus is considered a cutaneous tuberculosis, and the tubercle bacilli are found in the diseased tissue. Yet it has not been demonstrated to be a tuberculosis of the skin in any such direct and positive manner as phthisis has been shown to be a pulmonary tuberculosis; and there still is doubt as to the true pathogeny of the affection. The announcement of relapses of the lupus cases is not surprising. Dr. Koch proposes that his curative lymph be called "parataloid." It is of not much use to speculate as to its composition, since this we shall probably soon know. It is apparently of the nature of a ptomaïne or product of bacillary life. The cyanide of gold, which it is said to contain, may be presumed to be added more to preserve the lymph than for its specific effect. At any rate, cyanide of gold has been given therapeutically heretofore, and has never shown itself of any especial value.

The action of the "parataloid" seems at first sight most extraordinary. It picks out the tubercular tissue, viz., giant-cells, lymphoid and epithelioid cells, and kills them; the destroyed products are then absorbed and carried away. This selective power of the remedy is the more strange, for the reason that there is nothing specific in these particular elements; they are all found in normal tissues, and it is only their proportions to each other and peculiar anatomical relations which are, so to speak, pathognomonic.

However, the same thing may be said of syphilitic products, yet these are picked out, destroyed, and absorbed by the action of mercury and iodide of potassium.

One must not judge too quickly as to the wide possibilities of future therapeutic measures discovered along the same lines as those followed by Koch. "Parataloid," if it does destroy tubercle, destroys one of a group of infective granulomata. The others of this group are syphilis, glanders, farcy, leprosy, actinomycosis, and rhinoscleroma. These may be attacked by similar measures, perhaps; but the cancers belong to another pathological group and may require entirely different methods.

Still the imagination cannot fail to be impressed by the possibilities in therapeutics apparently opened up by Koch. If his discovery turns out to be all that he hopes, the impulse to further research will be immense. The death-blow will have been given forever to therapeutic nihilism.

Medicine can hold up its head as a science, and defy with confidence all the jeers that may be thrown at its inefficacy. Every physician will feel prouder of his calling, more certain of its utility, and more earnest in its pursuit. We hope that all which Koch promises will be fulfilled; it would be a profound catastrophe to medical science if his "parataloid" should now fail.

"THE PHYSICAL CAUSE OF THE DEATH OF CHRIST."

WHILE desiring to exercise every courtesy to our contributors, it is rarely necessary to apologize for them and for ourselves for anything that appears in our columns. We regret to say, however, that we are compelled to do this in reference to an article by Dr. C. C. P. Clark, of Oswego, which appeared in our issue of last week. Although we do not consider ourselves responsible for the views of any author, we do not aim to be the medium of publication of other than strictly scientific discussions. In reading the article more critically after than before its publication, we confess that its appearance in the RECORD was a mistake. With all due deference to Dr. Clark's right of opinion, it is proper for us to disavow any intention of fathering it, directly or indirectly, or of disturbing the religious convictions or shaking the Christian faith of any of our readers.

The discussion of what he would imply to be the essential points in his paper, would carry us beyond the scope of a strictly scientific journal, and involve the consideration of purely theological questions, with which we have nothing to do. It goes without the saying, that it would be out of place in this journal, even if it were necessary, to show from sacred and profane history, and by those canonical Scriptures whose authenticity and genuineness are accepted by believer and non-believer alike, that Dr. Clark's theory is absolutely untenable, and, even on strictly scientific grounds, unworthy of consideration. In accordance with such views we shall decline any further discussion of the subject in our columns.

DIRECT NEWS FROM KOCH'S LABORATORY.

THE great interest which has been manifested in the new method of treating tuberculosis, advocated by Professor Koch, of Berlin, has prompted us, on behalf of our readers, to take extraordinary means of placing before them the latest and most trustworthy data concerning it. For this purpose we have sent a special correspondent to Berlin, who will work in Professor Koch's laboratory and cable a weekly letter therefrom to the RECORD. The gentleman is Dr. Max Einhorn, of this city, who was a pupil of Professor Koch, and whose studies and researches in bacteriology, internal medicine, and organic chemistry peculiarly fit him for the special study he is to undertake. We shall thus have the latest information direct from the laboratory, and also from the various leading clinicians who are giving the method a trial. Until Dr. Einhorn's arrival in Berlin, which will be in the course of a few days, we have the means through our regular correspondent of supplying our readers with all the new and essential facts connected with the discovery which may be obtainable from that city.

News of the Week.

A New Bogus Medical College has been unearthed at Newbury, Vt., having the name of the Union Medical Institute.

Nearly Two Thousand Physicians are said to have gone to Berlin to study under Koch. Professor Bergmann delivered a lecture Monday at the Berlin Clinical Hospital, on thirty-nine cases treated by him according to the Koch method. The patients were suffering from various tubercular affections of the joints, bones, skin, glands, throat, and mouth. One of them was suffering from a tumor on the larynx, and it was doubtful whether the affection was a tubercular or a cancerous one. He was treated in the manner laid down by Professor Koch, and, as there was no constitutional reaction, Professor Bergmann was led to express the opinion that the tumor was of cancerous formation. Professor Bergmann illustrated the value of the Koch method as an aid in diagnosis. Professor Bergmann also demonstrated the Koch cure before Dr. von Gossler, Prussian Minister of Ecclesiastical Affairs, Instruction, and Medicinal Affairs, and many noted physicians, including Dr. Kerschensteiner, of Munich.

A New Clinical Phonograph.—Dr. J. Mount Bleyer, of New York City, has for the past two years carried on experimental researches in the use of the phonograph, for the recording of voices of singers, characteristic coughs of the different throat and lung affections, normal and abnormal respirations, etc. These records can all be preserved for future references. As aids in teaching, and object lessons in diagnosis, these illustrative phonograms are no doubt of scientific value. A repetition of these experiments were made with a new invention of Lieutenant G. Bettini, which formerly were done with the Edison phonograph and utterly failed to give the result necessary for practical use. The Bettini recorder and reproducer is so accurate in reproducing the quality, pitch, and intensity of a record, that it will become a very useful apparatus. Through these additional perfections in the micro-graphophone of Bettini, he was able to fulfil his wishes. His intention is within a few weeks to be able to give the profession a valuable machine for aiding clinical studies. Dr. Bleyer is preparing an exhaustive paper on the use of the micro-graphophone, which will appear in these columns. He claims the priority to this mode of investigation over that of Dr. Felix Semon, of London, who recently began to demonstrate its value.

Death from Cocaine.—A dentist at Lille has been tried for manslaughter for having applied cocaine to a lady's gum with a view to tooth extraction, with the result that the patient died. The Court held that it was not proved that the administration of cocaine was the cause of death. The defendant was, however, fined fifteen francs for the illegal practice of medicine, cocaine being an anæsthetic which should be administered only by a doctor.

The St. Louis College of Physicians and Surgeons has a chair of Dermatology, and examines in that branch for the degree, so says its Dean, in reply to Dr. Morrow's assertion that colleges do not have such a course as obligatory.

The Electric Light as an Analgesic.—Von Stein, of Moscow, says *La France Medical*, reports several cases of different painful affections which have been relieved as if by magic by the electric light. The apparatus which he uses consists of a small incandescent lamp about two inches long, with a reflector in the shape of a funnel, which is applied directly to the skin over the seat of pain. For the head and neck it is left in position for ten or fifteen seconds, but for other parts of the body it remains from one to five minutes, or until the patient complains of the heat. The author has obtained remarkable results in cases of intercostal neuralgia, rheumatic pains of the shoulder, lumbago, and severe pain in other parts of the body. The number of applications for permanent relief differs much, sometimes one being all that is necessary.

A Letter from Benjamin Franklin Concerning a Flexible Catheter.—The first meeting of the Section in Genito-urinary Surgery was held at the Academy of Medicine on October 13th, at 8.30 P.M. Among those present were Drs. Otis, Bangs, Sturgis, Alexander, Brewer, Morrow, Brown, Gerster, and Fuller. Dr. Sturgis was elected President, *pro tem.* Dr. Alexander stated the object of the meeting and read a letter from the Secretary of the Academy granting permission to form a Section in Genito-urinary Surgery. The following officers were unanimously elected: *President*, Dr. F. N. Otis; *Secretary*, Dr. Samuel Alexander. It was decided to hold meetings of the Section on the second Thursday in October, December, February, April, and June. Dr. Otis delivered the inaugural address, and afterward presented to the Academy, through the Section, the following letter by Benjamin Franklin, in which he describes the manufacture of an extempore flexible catheter:

To John Franklin.[1]

"PHILA. Dec 8, 1752.

"DEAR BROTHER, Reflecting yesterday on your desire to have a flexible Catheter, a thought struck into my mind, how one might properly be made. And lest you should not readily conceive it by any description of mine, I went immediately to the Silver Smiths and gave directions for making one (sitting by till it was finished) that it might be ready for this post. But now it is done I have some apprehension that it may be too large, to be easy; if so a Silver Smith can easily make it less by twisting it on a smaller wire, and putting a smaller pipe to the end, if the pipe be really necessary. This machine may either be covered with small fine gut first cleaned and soaked a night in a solution alum and salt in water, then rubbed dry which will preserve it longer from putrefaction: then wet again and drawn on and ty'd to the pipes at each end where little hollows are made for the thread to bind in and the surface greased:—Or perhaps it may be used without the gut, having only a little tallow rubbed over it, to smooth it and fill the joints. I think it is as flexible as would be expected in a thing of the kind and I imagine will readily comply with the turns of the passage, yet has stiffness enough to be protruded; if not, the enclosed wire may be used to stiffen the hinder part of the pipe while the fore part is pushed forward, and as it proceeds the wire may be gradually withdrawn. The tube is of such a nature, that when you have occasion to withdraw it, its diameter will lessen whereby it will move more easily. It is also a kind of screw and may be both withdrawn and introduced by turning. Experience is necessary for the right using of all new tools or instruments and that will perhaps suggest some improvements to this instrument as well as better direct the manner of using it.

"I have read Whytt on Lime Water. You desire my thoughts on what he says. But what can I say? He relates facts and experiments, and they must be allowed good, if not contradicted by other facts and experiments.

"May not one guess by holding lime water some time in one's mouth whether it is likely to injure the bladder?

"I know not what to advise, either as to the injection or the operation. I can only pray God to direct you for the best and to grant success.

"I am my dear brother
"Yours most Affectionately
"B. FRANKLIN.

"I found Whytts experiments are approved and recommended by Dr. Mead."

[1] Address "To Mr. John Franklin, Boston. Free: B. Franklin."

The meeting adjourned, to meet December 11th, at 8.30 P.M. The work of this Section will include questions relating to syphilis, and the venereal diseases, as well as to genito-urinary surgery.

Seventh International Congress of Hygiene and Dermography.—Dr. John S. Billings writes: "I am requested, by the honorable secretaries of the Committee of Organization of the Seventh International Congress of Hygiene and Dermography, to call attention to the fact that this congress will be held in London during the week beginning August 10, 1891. The governments of all countries and municipalities, and all public health authorities, universities, colleges, and societies occupied in the study of the sciences more or less immediately connected with hygiene are invited to coöperate and appoint delegates to represent them at the congress. The Prince of Wales will preside. A committee of organization has been formed, of which Sir Douglas Galton is chairman, and Professor W. H. Corfield and Mr. Shirley F. Murphy are honorary secretaries. An exhibition of articles of hygienic interest will be held in connection with the congress. The last of these congresses was held in Vienna in 1887, and was attended by over two thousand persons, and it is expected that the London meeting will be one of great magnitude and importance.

A New Hospital is to be built in Long Island City.

A Hospital Staff Resigns.—It is announced that a sensation in the medical as well as social circles of Ottowa, Canada, has been caused by the removal of Dr. Rogers, a prominent physician, from the staff of medical directors of the Protestant Hospital and the selection of Dr. Kidd to fill the vacancy. The members of the medical staff of the institution have resigned. A peculiar feature of the affair is that there is not the slightest reason advanced for the removal of Dr. Rogers. Although the staff have resigned, their resignation does not take effect till the next meeting of the directors. The visiting medical staff includes Sir James Grant.

Koch is now a "biger" man than old Bismarck.

Light from a Theosophist.—Again we asked, "Why are these clairvoyants and sensitives mostly women?" "Because," the theosophist answered, "women have a larger solar plexus than men. The solar plexus is, so to speak, the mind of the soul."—*The Nightingale.*

Is Tonsillitis Contagious?—In the *Medical and Surgical Reporter*, November 8th, Dr. Fred. T. Kidder reports a number of cases of follicular tonsillitis, apparently showing that the disease is contagious. In one instance the doctor himself suffered from a sharp attack of tonsillitis nine days after beginning the treatment of a case. Out of a family of seven six were taken down one after the other. In another family, mother and son were attacked, also a young lady who visited them while they were sick.

Dr. Richard J. Levis died at Kennett, Pa., on November 12th, of pneumonia. He was born in Philadelphia, in 1827, and was the son of Dr. M. M. Levis. He studied medicine at Jefferson College, in Kennett, and graduated in 1848. Dr. Levis was at various periods during his active professional life surgeon to the Wills Eye Hospital, to the Philadelphia Hospital, the Pennsylvania Hospital, the Jefferson Hospital, and the Philadelphia Polyclinic and College for Graduates. From 1877 to 1887 he occupied the position of President of the Board of Trustees of Jefferson College. He also served as President of the Medical Society of the State of Pennsylvania in 1885, and as President of the Philadelphia County Medical Society during 1885–86. Dr. Levis retired from practice in 1887.

Dr. H. M. Lyman has been appointed Professor of the Principles and Practice of Medicine in Rush Medical College.

Dr. Samuel A. Woodward, in a recent article in the *Journal of the Military Service Institution*, advocated an excellent plan for elevating the status of the medical profession in the army.

Vaccination on the Leg.—Some years ago, says the *Medical Standard*, a small panic broke out among actresses, and many of them not being able to pay conveniently the $5 usually charged by a practising physician for vaccination, applied to the health department. One and all had objection for practical, professional, as well as æsthetic reasons to having their arms marked up, and they were vaccinated on their legs. The calf of the leg was the part chosen for the insertion of the vaccine. The patients were in walking dress, and the proceedings disturbed the peace of mind of the young doctors who did the tattooing. One actress complained that she had not been vaccinated properly because the physician's hands trembled.

Death from an Overdose of Paraldehyde.—A patient in the Fever Hospital attached to the Cork Workhouse died from the effects of paraldehyde. The deceased, aged twenty, was admitted suffering from typhoid fever, and but slight hopes were entertained of her recovery. As she was suffering from violent delirium and sleeplessness, a hypnotic was prescribed. The patient getting worse, instead of giving one teaspoonful, the nurse unfortunately administered the entire contents of the bottle —viz., from six to seven teaspoonfuls. In about five minutes the patient fell into an unconscious state, and, despite medical assistance, remained in that state for four hours, when she died. The quantity of paraldehyde that was administered is not mentioned, but it may be supposed the deceased girl took from six to seven drachms.

Exploratory Laparotomy under Cocaine has recently been successfully performed by Dr. MacLaren, at the Cumberland Infirmary, England.

University Students in France.—In view of the measure which the Senate will shortly be called upon to discuss with regard to the creation of new universities in France, the Ministry of Public Instruction has prepared a very interesting return showing the number of students who at present attend the different French faculties. The total is 16,857, of whom 15,316 are Frenchmen and 1,471 foreigners, as against only 9,863 fifteen years ago. Out of this total, 5,843 students attend the faculties of medicine, 4,570 those of law, 1,834 those of literature, 1,590 those of pharmacy, 1,276 those of science, and 101 that of Protestant theology. Rather more than half of these (8,653) are students of the different Paris faculties; and, of the 1,271 foreign students, 1,078 are in Paris. With regard to the nationality of the foreign students, there are 989 Europeans (313 Russians, 159 Roumanians, and 121 Turks), 201 Americans (of whom 173 come from the United States), 68 Africans (of whom 51 are Egyptians), 12 Asiatics, and 1 Australian. The great majority of these foreigners are studying medicine, as 907 belong to these faculties, while 240 are studying law, 58 science, 39 pharmacy, 24 literature, and 3 Protestant theology.

Physicians off to Study the New Cure for Tuberculosis.—Drs. H. P. Loomis and J. H. Lindsley left this week for Berlin, in order to study the new method of cure. Dr Loomis we understand represents the University Medical School, Dr. Lindsley the Post-Graduate Medical School.

The Introduction of Morphia and Atropia before Anæsthetics.– Dr. J. C. Reeve, of Dayton, O., states: "Writing in haste to present my testimony in favor of this method, I find that I have been unjust both to myself and others. I learned the method of preceding anæsthesia with morphia from Bernard, but from publications earlier than his Leçons in 1875. His first publications on the subject were made in 1869. Moreover, Bernard did not use atropia in connection with the morphia. This was first distinctly taught to meet the dangers from chloroform by Bartholow, in his prize essay of ihe American Medical Association, 1869. My first publication of cases was in 1876, and I had then been using it "for six or eight years." Just when I first resorted to the two agents I cannot say, but I was very strongly impressed by Harley's teachings as to the stimulating effect of atropia on the heart and respiration, published in *Medical Times and Gazette*, 1868, and in "Old Vegetable Neurotics," 1869. Certainly I began to use it in 1869. That due credit should be given to Professor Bartholow is the more necessary now, since Dastre's work has just appeared (*Les Anesthésiques*, 1890), in which he claims this method for himself and M. Morat, and says they have resorted to is "for about ten years past!"

Society Reports.

PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, October 10, 1890.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Amyotrophic Lateral Sclerosis?—DR. BEVERLEY ROBINSON presented a patient with the following history: "William F——, aged twenty-three, single, native, telegraph operator for four years, bookkeeper for two years, admitted to St. Luke's September 19, 1890. His father died of consumption, mother of cancer, one brother died in an epileptic fit, one sister and three brothers are alive and well. Previous history: Scarlet fever when a boy, no sequelæ; no malarial, cardiac, pulmonary, renal, gonorrhœal, specific, nor alcoholic history.

Two years ago he had to give up telegraph operating, owing to inability to make the proper dashes. This difficulty had been coming on for about four months. He then commenced bookkeeping; was able to write, although with some difficulty, and continued at this until about a month ago. Then, owing to decline of general health and difficulty in writing, he gave it up. A year ago he first noticed stiffness in the right elbow, which has progressively increased. He also felt that the cords in front were getting more tense, and that the joint was getting larger. There was never any inflammation or pain in the joint. About six months ago his left wrist became swollen and painful; the pain went away in about five days, but the wrist was left swollen and stiff.

About a year ago he noticed that at the junction of the tarsus with the phalanges of the first three toes of the left foot there was pain, increased by walking; this has extended farther back on the sole of the foot, and has kept up ever since; there is also some stiffness of that foot.

Since about a year and a half ago he has noticed that the muscles of the hand, arm, and forearm have been becoming smaller; he has noticed some loss in the size of the leg also. In all he has lost about thirty pounds during this period. For about two years he thinks he has passed more water; he micturates more frequently, and has to exercise a good deal of will-power to hold the water when he desires to make it; he also has difficulty in expressing the water which remains in the urethra after emptying the bladder, and has to express it with the fingers.

He thinks he has lost memory considerably, and does not grasp the meaning of written things so well. He is able to walk perfectly well, and has yet a good deal of power in his hands and arms. His bowels are regular, appetite is very fair, he feels pretty well generally. His hands are always very cold. Temperature, 99.6° F.; pulse, 88; respiration, 24.

The result of the examination was as follows: Heart, apex in the fifth space, within the mamillary line, action regular, no murmur. Lungs negative. Liver, over its situation is tympanitic resonance. Spleen not made out. Abdomen negative; inguinal glands enlarged on both sides. There is atrophy of the muscles of the hand, forearm, arm, and shoulder, more marked on the right side. Very little, if any, atrophy of the feet and legs. Increase of wrist- and elbow-jerk on both sides, especially the right; marked increase of knee-jerk; no ankle clonus; no plantar reflex; cremasteric and abdominal reflexes normal; sensation normal. Strength, as indicated by the dynamometer, right hand 60; left hand 68. Pulse, 72, regular, soft. Tongue moist, slightly coated with white fur. Papillæ, prominent. The urine contained no albumin, no sugar; specific gravity, 1.022; acid, with oxalate of lime crystals.

The notes of the examination by Dr. Robinson, October 4th, were as follows: Measurement of calf on left side, 11.25 inches; right, 11.75; thigh the same on both sides. Patella reflex, right markedly increased; left relatively diminished; wrist-jerk present on right, not on left. Elbow-jerk distinct on right, not very distinct on the left. Moderate pressure of the hand against the wrist on the left side causes pain. No apparent fluid in the joints. Decided thickening and roughening of the ends of the bones of the right elbow-joint with marked crepitus, faint on rotating the radius; bony limitation to motion in extending forearm. There is also enlargement of the bones of the phalangeal joint of second, third, and fourth fingers of left hand, right wrist, and fingers already mentioned. Right upper limb is decidedly smaller than left; dynamometer, right 65, left 72. No staggering on standing with eyes shut; walks naturally; eyesight normal.

Reaction of muscles of extremities to galvanism and faradism normal. There is relatively increased irritability of muscles of the right hand, arm, and forearm to both kinds of electricity.

DR. CURTIS examined the right elbow-joint and thought the condition might be tubercular. A foreign body recognized in the joint he thought pointed to its nervous origin.

In commenting upon the case, DR. ROBINSON said there was against the view that it was one purely of progressive muscular atrophy the fact that the reflexes were increased chiefly on the side most affected. There seemed to be a portion of the cord involved which presided over nutrition. There was no spasmodic condition, and no contraction of the muscles except in the right biceps, this being the only symptom pointing to an affection of the lateral columns of the cord. There was friction in certain of the joints, but no fluid. He had first thought of arthritic disease, more particularly in the right elbow, as the cause of the atrophy, and that this was dependent in some way upon his occupation. But there seemed to be no indication of it in the urine, in deposits of urate of soda about the joints, nor had he suffered especially from pain in the joints, thus excluding tabes dorsalis, rheumatism and gout, and other affections of the nervous system. He thought the case was probably one of amyotrophic sclerosis, although it was not typical of this disease.

DR. C. L. DANA said the case was a somewhat obscure one, and it was impossible to make a positive diagnosis on seeing it but once. It seemed to him, however, that it was not one of amyotrophic lateral sclerosis, an affection which was now generally regarded as essentially a progressive muscular atrophy with a slight variation in the usual clinical features. The Germans, in fact, regarded amyotrophic lateral sclerosis and progressive muscular atrophy as identical. Dr. Dana did not think it was a case of progressive muscular atrophy, for the reason that one arm was principally involved, and in the course of two years it had not extended much beyond that. Then, too, the finer muscles of the hand were very little involved. While there was another type in which the muscles of the shoulder and upper arm were involved, this case did not belong to that group. Here the muscles supplied by the ulnar nerve seemed chiefly affected. It struck him, therefore, that it was probably an arthritic affection.

DR. W. H. DRAPER said it did not impress him as a case of amyotrophic lateral sclerosis, or of any other central spinal disease, but rather as an arthritic affection with atrophic changes in the muscles. He had long been disposed to think that many arthritic lesions were of neural origin. If this supposition was correct, we still did not know whether it was a neuritis, an affection of the nerve trunks, or some central lesion. In the case under study he thought we should take into consideration the patient's heredity, his father having died of consumption, his mother of cancer, and one brother of epilepsy. It seemed, too, he had worked in unhealthy localities. Moreover, he had been engaged in telegraphy at the time the lesions began to appear, and the speaker had noticed that not infrequently rheumatic and gouty lesions manifested themselves

chiefly in parts most used. In laundresses, for example, the disease was apt to show itself in the upper extremities, while the lower extremities were most affected in those who walked a great deal. It had always seemed to him that the question of traumatism was an important one in the history of rheumatic lesions, those joints being most affected which were most exposed to strain.

DR. F. P. KINNICUTT said the case impressed him, both from the objective symptoms and from the history, as being one known as rheumatoid arthritis. The appearance of the joints, the partial ankylosis, the atrophic changes in the muscles, the way in which the joints had been attacked—first the elbow and the wrist, then the fingers of one hand, then the wrist and the fingers of the other; and although the patient had not complained of suffering much from pain, yet he said he had had very decided pain and swelling of the left wrist six months ago; then for the first time the trouble began in the small joints of that hand; and at present it would be observed that the small joints were affected in varying degree: all these facts, he thought, pointed to an arthritic trouble. Absence of pain was not very uncommon in rheumatoid arthritis—that was to say, of severe pain. The joints enlarged, became more or less useless, then there followed atrophic changes, finally contraction of the muscles. This, it seemed to him, was a very good example of that class of cases. He did not think there was a gouty, but rather a rheumatic element. But one saw cases of both gout and rheumatism almost imperceptibly passing into this condition. Not more than a year ago he had read an interesting article on this subject by a gentleman of Bath, England, who stated that he had seen a good many such cases; that persons came there to be treated for either rheumatism or gout, that these affections disappeared, but before the patients were scarcely aware of it there developed what he regarded as a different affection, a rheumatoid arthritis. This author had suggested that the part which gout and rheumatism took in the development of rheumatoid arthritis was to impair the nutrition by repeated attacks, leaving the tissues in a condition favorable for the development of a new and independent disease. Dr. Kinnicutt thought the feeling to day was that rheumatoid arthritis was probably of neurotic origin, and had no immediate connection with what we had hitherto considered either gout or rheumatism.

DR. V. P. GIBNEY doubted whether he could throw much light on the diagnosis, yet he thought he had felt in the right elbow bony crepitation, such as was observed in neuro-arthritic lesions. This crepitation had been observed in Charcot's cases, some of which the speaker had seen, and corresponded to an erosion of the cartilage. Until Dr. Draper had mentioned the fact, he was about to remark that it was difficult to understand why there should have been such extensive arthritic changes in the upper extremity when the lower extremities, especially the knees, had almost escaped. He now had a girl fourteen years of age under observation, every joint in whose body seemed implicated. The ankle-joints were very much distorted. It could not have been due to occupation, for she had never worked. The patient presented showed marked freedom from crepitation in the distal joints of the fingers, yet, from his occupation, one might suppose they would be first affected. He was quite sure, he said, that this man had not arthritis deformans, meaning by that enlargement of the ends of the bones bordering on the joints. His seemed to be a case of true joint lesion. There was no bony enlargement, especially at the joints. He was disposed to regard the case as due to a cord lesion, the cord lesion being either the direct or predisposing cause.

THE PRESIDENT was rather impressed with the view that it was not a case of cord lesion, unless all cases of rheumatoid arthritis could be attributed to a cord lesion. There were several reasons why it should not be regarded as a case of amyotrophic lateral sclerosis—in that disease we did not expect an articular lesion, whereas involuntary spasmodic muscular contraction was marked. He was inclined to regard it as a case of rheumatoid arthritis; he thought that would account for the atrophic changes and for the condition of the joints

DR. ROBINSON would simply add that the electrical reactions and the tendon jerks pointed toward a lesion of the cord involving the lateral columns.

DR. DANA remarked that he did not think the elbow-jerk was much exaggerated. Besides, this man was of a nervous temperament; and probably his habits, use of tobacco, etc., had tended to exaggerate the reflexes.

Removal of the Drum-head and Ossicles for Chronic Catarrh of the Middle Ear.—DR. SAMUEL SEXTON presented a woman whom he had brought before the society at a meeting three years ago in illustration of a group of cases in which he had removed the drum-head and two larger ossicles for chronic catarrh of the middle ear resulting in deafness. At that time she could hear a loud voice only ten inches on the left side; to-day she could understand when spoken to in a voice a little above the conversational ten feet distant. The members were enabled to examine the ear under the electric light, and observed that the drum head had not been reproduced.

This was only one of many similar cases which he had operated upon, with much better results in some and not quite so good results in others. Altogether, however, the operation had proven very satisfactory. He was interested to learn while at the recent International Medical Congress that this operation was at present attracting a great deal of attention in Germany. Their results, perhaps, had at first not been quite so good as in America, for the reason, he thought, that they proceeded somewhat more actively to prevent regeneration of the drum-head. In Paris, Dr. Sexton found but comparatively little being done in the surgery of the ear, and in Great Britain the aurists were, perhaps, even more conservative than their French neighbors. The Germans were universally enthusiastic over the operation for the cure of chronic purulent otitis. In a number of cases this affection could not be cured in any other way than by removal of the dead structures.

Internal Medicine at the Berlin Congress.—This was the title of a paper read by Dr. Andrew H. Smith.

HARLEM MEDICAL ASSOCIATION.

Stated Meeting, November 5, 1890.

EDWARD FRIDENBERG, M.D., PRESIDENT, IN THE CHAIR.

Ectopic Gestation.—DR. F. H. DANIELS read an interesting and exhaustive paper on this subject. The paper, which will be published later, gave the full history of the causes, symptoms, and treatment of this interesting morbid condition, and reviewed extensively the literature bearing on it. The several propositions laid down were as follows: While it is possible under favorable circumstances to diagnose extra-uterine pregnancy, there are no premonitory signs of rupture.

Rupture is inevitable in every case, and the rupture takes place in one of two directions. Either downward into the folds of the broad ligament, or upward into the peritoneal cavity. In the first instance the patient may recover by absorption of the ovum or by its development to term and thereafter. In the second instance death by hemorrhage will ensue if laparotomy is not promptly performed. The much-talked-of treatment by electricity ought to be abolished, as it is dangerous and inefficient. The cases of so-called extra-uterine pregnancy, reported by Drs. Thomas and others as cured by electricity, are to be doubted. They were probably some other tumor, and not extra-uterine pregnancy. Laparotomy is the only justifiable means to be applied as soon as a diagnosis is made.

Discussion.—DR. MALCOLM MCLEAN: I agree fully with

the reader of the paper in his very accurate description of the causes, symptoms, and diagnoses of ectopic gestation. But I must emphatically differ with him in the management of these most important cases. Dr. Daniels takes his stand with other progressive surgeons in Europe like Dr. Tait. But I regret that any American surgeon should sweep aside the value of electricity in the condition under discussion. I believe a majority of cases of so-called extra-uterine pregnancy operated upon by Dr. Tait are no other than blood-clot in the Fallopian tube. The symptoms of extra-uterine pregnancy can be recognized; and electricity is a most efficient agent to cure the patient. I have positive evidences of this in several instances. If these tumors are found beside the uterus, with other signs of pregnancy, and become absorbed under the use of electricity properly applied, what can they be but the products of conception? I know of no cystic tumor which can be so absorbed. I saw a case, with the late Dr. D. C. Cocks, of extra-uterine pregnancy at the tenth week, four able physicians having agreed upon the diagnosis. Electricity was used, and the pain was immediately relieved and the tumor gradually diminished, until six months later a mere nodule remained. In medicine or surgery we are forced to make a diagnosis on a collection of rational and other symptoms. We are certain of nothing but what our eyes see. But, given pain and discharge of deciduous membrane, also a tumor different in character by its rapid growth, etc., from all other known growths, if now electricity be applied, and the mass disappear and the signs of pregnancy are removed, what rational inference can we draw?

Dr. Janvrin places on record a case where electricity failed to cure and the patient died; but he admits that hemorrhage had already taken place, and asserts electricity was not responsible for the death. Before the twelfth week electricity is almost certain to kill the fœtus. But as the patient lives we can't produce the specimen. I saw a case where the sac had ruptured and the limbs of the fœtus could be felt through the vaginal walls; an operation was urged, but refused. She made a spontaneous recovery, and I have subsequently confined her with placenta prævia. I am not certain that the tube always ruptures, and on this assertion I suppose I stand alone. I have here before the Association the fœtus, which I removed at the end of the twelfth month. The case was published in full in the *American Journal of Obstetrics and Diseases of Women and Children*, vol. xxiii., No. 4, 1890. The fœtus was living up to the ninth month, and every indication of labor came on, but no result. Some weeks later the case came under my care (at the twelfth month). I operated and cut through the placenta, which was easily removed. No hemorrhage took place. The sac was connected to the right horn of the uterus, and was none other than the distended Fallopian tube. It was left as found. The patient made a good recovery and is now six months pregnant (intra uterine).

A very important diagnostic point is this: If the amniotic fluid has begun to be absorbed and the tumor is, in consequence, growing less, then it is safe to assume that the placenta is dead, and no harm will result in its removal. In the same week that I operated, a surgeon in one of the Southern States cut through a live placenta and lost his patient on the table through hemorrhage. In that case there had been no absorption of the amniotic fluid.

Dr. A. D. Rockwell: For many years my attention has been called to another department of medicine, and I do not pretend to be an expert in obstetrical science. Still, I have had some experience in the use of electricity in ectopic gestation. Dr. Daniels is mistaken when he states in his paper that electricity was first used in 1872 for the cure of extra-uterine pregnancy. I believe electricity was first employed by myself for this condition in 1881. All told I have had fourteen cases, and the diagnosis was made by very eminent men, such as Emmet, Sims, Thomas, and others equally renowned. So there could be no doubt as to the diagnosis. I believe the use of electricity in this morbid condition to be most valuable. Specialists are not called now as frequently as a few years ago, because the profession at large has recognized the value of the remedy, and it is being employed by many practitioners. It is sad to learn that in some parts of the country the knife is still advocated, while electricity, when properly applied, can be used so painlessly and effectually. Recently, it has been observed, that a more certain method of killing the fœtus was by rapidly increasing, and then suddenly and quickly diminishing the current without interruption of the same, using a current from twenty to fifty milliampères.

I do not know why the surgeons of New York do not take more kindly to electricity for the cure of extra-uterine pregnancy, unless, by its use, operations are taken from them.

Dr. Thos. H. Manley: A woman, four months pregnant, fell on a plank while crossing the sidewalk. Great pain, with signs of commencing peritonitis followed. Five days after the accident I saw the patient, with the attending physician. There had been an uterine hemorrhage, but no signs of any portion of the placenta having been discharged. The patient was in great distress, with a temperature of 104° F. After a careful examination a diagnosis of extra-uterine pregnancy, with the sac ruptured, was made. Operation was consented to, and the incision being made in the median line the knife went through a compact and dried blood clot. The placenta was found in the broad ligament; it was hard and dried, and easily removed. The fœtus was found under the intestines, in the neighborhood of the left kidney. No pus came through the drainage-tube; still, septic symptoms continued ten days, after which time she made a complete recovery. The fœtus and placenta are here photographed for your inspection.

In ectopic gestation, it seems to me, the first question we have to consider is, Is it possible to allow the mother to carry the fœtus to a viable period? I believe it is possible, and that it is our duty to do so. We have no moral or legal right to destroy the child's life. Modern surgery permits of safe operation in these cases. At the recent Congress in Berlin a French physician presented a mother on whom he had operated for extra-uterine pregnancy, and delivered her of a living child—the child died one week after delivery. At the same time a German physician presented both mother and child, he having delivered her by abdominal section—the fœtus being extra-uterine. Three things are necessary in normal pregnancy: First, proper vascular supply; second, protection for the fœtus; and third, facilities for its expulsion. Now in ectopic gestation the first two conditions are supplied. Just as a large dermoid cyst can be developed in the abdominal cavity, so it has been proved can a fœtus develop up to full term. The only agency wanting, then, is the facility to expel the fœtus. Art has provided for this in a free abdominal section. The danger from hemorrhage has, heretofore, intimidated the surgeon; but it should not now, as ample provision can be made which will effectually (forestall) this danger. Let us make a new departure and put our patient to bed, and endeavor to carry her along until a proper time, and then operate. I would like to inquire of Dr. McLean why operation was not performed in his case at the end of the nine months?

Dr. McLean: The fœtus was dead six weeks before I saw the case. It is my rule to examine all women under my care, whom I expect to confine, during the last months of pregnancy. Had that been done by the physician in charge of this case, the condition could have been recognized, and operation performed with some hope of saving the child's life; though I believe, in this case, the position of the placenta would have cost the life of the mother and child, if operation had been undertaken at the ninth month.

Dr. F. H. Daniels, in closing the discussion, stated it was not his object to defend Dr. Tait's operations, but

to bring out the possibilities of abdominal section for extra-uterine pregnancy. Outside of New York the operation is preferred to the use of electricity. Of course I cannot state what these tumors are which have been operated on as ectopic gestation, because I have not seen them. I am convinced there are numerous cases of ectopic gestation which rupture in the first weeks of pregnancy, and no evil results. In Janvrin's case operation might have saved the patient. There are no premonitory signs of rupture, and this has already taken place in the majority of instances before the physician is called.

In regard to the ethical side of the question I believe the mother's life should receive the first consideration. I do not think the histories of cases of this condition prove that anything could have been done to prevent rupture. The sac is generally ruptured in tubal pregnancy before the fourteenth week. If the tube is already ruptured, and there are no untoward symptoms, and the child is living and developing, then I could conceive that it would be possible to allow it to go to full term and by operation bring forth a living child. I have very grave doubts that Dr. McLean's case was one of tubal pregnancy.

DR. MCLEAN: There could be no reasonable doubt. I cut through the peritoneal covering of the sac, then muscular tissue one-half inch thick, and, finally, came upon the mucous coat. It is true the peritoneal coat was more or less adherent to the surrounding tissues; but the tube could be distinctly traced to the horn of the uterus. Double uterus was, probably, disproved.

DR. DANIELS: To sum up the matter, on discovering a case of extra-uterine pregnancy before the tenth or twelfth week, and no positive evidences of dangerous hemorrhage taking place, I would use electricity to destroy the growth of the ovum. Having succeeded, I would expect absorption and the patient's health restored. Otherwise, I would take into consideration the advisability of removing the mass by abdominal section. In case of rupture with threatening symptoms, I would operate as soon as possible, though these cases of operation for bad hemorrhage are not promising and are very difficult. If the ovum goes on developing at the end of the fourth month I would allow the patient to go through gestation; and, unless I could feel sure that the placenta was not implanted anteriorly in the sac, I would not operate to save the child, but would wait for evidences of amniotic absorption, as mentioned before, and then operate.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE MODERN MEDICAL STUDENT—SIR JAMES PAGET ON THE VALUE OF SCIENCE IN MEDICAL EDUCATION—OVERSIGHTS IN OBSERVATION—CAUTIOUS THINKING—DR. BROADBENT ON THE CLINICAL SIDE OF MEDICINE—AN EXAMINATION STORY—THE LATE DR. HANDFIELD JONES, F.R.S.

LONDON, October 11, 1890.

THE present is an age of evolution, and the process has affected the medical student at least as much as his contemporaries. Mr. Robert Sawyer and his colleagues, as depicted in the pages of Dickens, do not bear the remotest resemblance to the student of to-day. The latter, indeed, is a very different individual from his prototype of even some twenty years since. For this the increased severity of examinations is largely responsible. Nowadays students of medicine have to work, and work hard, even if they are only seeking to obtain the minimum qualifications. Not only with regard to work, but also in regard to play, there is a great change for the better in the modern student. Rowdyism may be said to have disappeared — certainly as regards the average student. Athletics, æsthetics, music, and literature attract a large number of votaries, while many devote themselves almost entirely to their work except in vacation. Anyway, if the student of to-day is not all that he should be, it is certainly not from any lack of good advice. I referred to some of this last week, but have by no means exhausted the stock of wisdom poured forth at this season for the benefit of the commencing student.

At Liverpool the winter session was opened on Saturday last with an address by Sir James Paget. He remarked that he that ceased to gain knowledge was always losing it, and he that was not a student while in practice was sure to become less fitted for his work every year that he lived. Students should make the best use they could of the teaching of the sciences in the colleges, for making them, as far as possible, scientific practitioners and students in after-life. We heard a good deal said by some that science was the only way to success; by others that practice was the only way to what was right. After watching for a great many years he was disposed to tell all students—and he thought the rule might hold good for others besides those in medicine—that both should be worked together. Neither taken alone was enough and sufficient for all that might be done best in life. There was, indeed, a great deal of medical knowledge which could be learned only in practice, but there was not one part of that which could not be learned as well by a scientific student as by anyone else, and there was a great quantity of knowledge to be applied in practice which could only be derived from scientific knowledge, and the range of that class of knowledge was every year increasing as the application of the sciences became more abundant in the practice of medicine as they did in every calling of life. In scientific studies might be acquired habits of mind for which they were, he did not say alone sufficient, but far better than any other pursuits that might be named; and here, too, the mingling with men who were pursuing science for other pursuits was especially advantageous. In ordinary talking men seemed to think that careful observation was one of the easiest things in the world, and there were some who spoke of it as if they themselves had never overlooked anything of importance in their lives. Study any science, and one could see examples of the opposite in every page. It would be a very useful book if someone would write—not a history of discovery, but a history of the oversights.

Sir James Paget said he was lately much struck, when walking on moors in Yorkshire, to find abundance of the sundew (*Drosera rotundifolia*). In his early student days, he said, he used to study botany on the broads of Norfolk, and saw—what everybody else did—that it caught flies and that flies hung upon its leaves. But he did not observe what Darwin had done—that it not only caught the flies, but that it entangled them; that it clasped them in its tentacles, and held them till it had slowly but surely digested, absorbed, and lived upon them; for that indeed it surely did. That which was now obvious to every man was exposed to the sight of all the great naturalists for centuries past; but not one of them observed it, and it was reserved for the keen perceptive powers of Darwin to find out that which might have been obvious to every man's mind. That might be told of every month of our lives. There was another faculty to be as carefully cultivated, and that was cautious thinking. John Hunter used to say, "Do not think, try." He would add on the words "Be patient, be accurate." It might be well for us to keep in mind the three words, but he might read them with this paraphrase: "Do not think that you are likely to state what is true in science; test for it by observation." We should look, for example, at Pasteur's work, or at the marvellous application of it by Sir Joseph Lister.

Dr. Broadbent, of London, gave the opening address at the Yorkshire College, Leeds, and took for his subject "The Clinical Side of Medicine." There was a very natural tendency, he said, on the part of students to suppose that the main purport of ward work was to acquire

a knowledge of physical signs. This might be pursued too exclusively. Familiarity with the physiognomy of disease was also absolutely essential, and would, indeed, be more useful to his hearers and their patients than that they should be good auscultators. Sometimes the look of a patient told you his whole story. You might read in the face of the sufferer typhoid fever, or pneumonia, or acute rheumatism; and you might read more than this—you might say he would do well or badly, would succumb without an effort, or would make a good fight for his life. When pulse and temperature and physical signs and urine had told all they could, you might see by the expression of the countenance that there was something behind which made for good or evil. Knowledge of this kind could not be conveyed in books or imparted by a teacher. Books and lectures could, it was true, tell the student what to look for, but he must look for himself, and the moment he entered the hospital he should make it an object to fix in his mind the indications of disease apparent in the face. Students should say to themselves, when they first saw a case, "Now what is the matter with this man?" and every time they saw him later they should say to themselves, "Does he look better or worse?" When in practice they would have to answer this question, both to themselves and the friends, every day, and the confidence they inspired (and indeed their usefulness) would depend greatly on the promptitude and justice of their answers. Carried into the region of physical signs the habit of noticing carefully every point which could be made out by vision was a gain of great value. While speaking of physical signs he would say that it was always well in diseases of the lungs to examine the sound side fully and carefully first, so as to establish a standard of comparison. He would also remark that in auscultation—whether of lungs or heart—it was not only what we heard that was important, but what we did not hear. It would conduce to clearness of comprehension if from the first students distinguished between facts of observation and the inferences based upon them. They had no business, for instance, to put down in their notes that a systolic mitral murmur was present. The patient should be examined day by day, as if they had never seen him before, and they should set down their observations without reference to what they had written previously. They would probably find now and then that they had contradicted themselves flatly. He should be disappointed if they did not; no lesson could be more useful.

Dr. Broadbent then proceeded to speak of examinations, and narrated an incident of his own career which certainly "takes the cake" among recent examination stories. When he went up for the examination at the College of Surgeons (1857), he said, it was *vivâ voce* only and lasted just an hour—a quarter of an hour at each of four tables. At the fourth table he was questioned on the subject of psoas abscess. In those benighted days, said Dr. Broadbent, the treatment recommended was gradual evacuation by small valvular punctures, and it so happened that he had had an apparently successful case in the practice of the gentleman to whom he was apprenticed. He therefore described this method, and was asked, somewhat sharply, if he had ever seen a case so treated, when he replied "Yes;" if he had ever seen one get well? Again he said "Yes," upon which his examiner said, "I don't believe you." To the next question he made no answer, and, when it was repeated, he still remained silent. The examiner now got angry; he was himself already so, and leaning back in his chair said that as the examiner doubted his word he did not propose to answer any more of his questions. Dr. Broadbent remarked that he did not remember the details of the scene which ensued, but said he recollected well that he derived much comfort and encouragement from the fact that the colleague of his adversary got up from the table and walked to the window looking over Lincoln's Inn Fields, where he could see his sides shaking with laughter. Fortunately, he said, the other three tables saved him from rejection.

Another link with the past is severed by the death of Dr. Charles Handfield Jones, F.R.S., at the ripe age of seventy-one. He was educated at Rugby, where he came under the influence of Dr. Arnold, then head-master. On leaving Rugby the future physician proceeded first to the University of Cambridge, and subsequently studied in St. George's Hospital, London. Graduating as M.B. at Cambridge, in 1845, he became a Fellow of the Royal College of Physicians in 1849, and was elected a Fellow of the Royal Society in 1850, at the early age of thirty-one. In the following year he became one of the original members of the staff of St. Mary's Hospital, London. He became full physician in 1864, and retained the appointment for the full term of twenty years. Dr. Handfield Jones was an indefatigable worker, and not only in original work but also in the daily routine of clinical work put forth his best strength. Many of his old pupils will remember his almost daily visits to the hospital and the enormous pains he expended in taking notes with his own hand of most of his cases. Respected by all who knew him as a scientific and Christian physician, Dr. Handfield Jones was certainly not one of the least distinguished of Arnold's pupils. Much of Arnold's influence remained with him through life, and to his principles—if not directly to his teaching—Dr. Handfield Jones would himself have acknowledged that much of his success was due. His own personal influence as an exponent of those principles was not slight. I should add that he was no recluse, but fond of manly exercises and an ardent mountaineer till within a few years of his death. Two sons follow him in the profession, and one of these is a member of the staff of the hospital where Dr. Handfield Jones worked for so many years.

LETTER FROM CARACAS, THE CAPITAL OF VENEZUELA.

A MODERNIZED SPANISH-AMERICAN CITY—A RISKY RAILROAD RIDE—MEDICAL PRACTICE IN THE CAPITAL—THE MODEL HOSPITAL IN SOUTH AMERICA—LEPROSY IN VENEZUELA—SMALL OPENING FOR AN AMERICAN PHYSICIAN.

(From a Staff Correspondent of the MEDICAL RECORD.)

CARACAS, as everybody may not know, is the capital of Venezuela, and the most important commercial city of the republic. It lies in a beautiful valley, at an average altitude of 3,018 feet, its highest point (Pastora suburb) being 3,126 feet, and its lowest (the iron bridge over the river Guaire) being 2,889 feet above sea-level. It is distant from the Caribbean Sea but six and a half miles, as the crow flies, but the railroad leading to the seaport, La Guayra, is twenty-three miles in length, twisting and turning over the mountains in a most remarkable fashion in order to avoid too steep a grade. This railroad is rather interesting from a medical point of view, in that the services of a surgeon are almost never required in case of accident. The road-bed is nothing but a scratch along the face of the mountain, just wide enough to allow the narrow cars to pass, the outer rail being in many places not more than two or three inches from the edge of the precipice. When the train leaves the track, as it has done two or three times, it jumps down the almost perpendicular side of the mountain some thousand or more feet, and that is the end of it; there is no need of surgeons or of wrecking-trains, everything is effectually disposed of, and the track is clear for the next train. There is a beautiful simplicity about this that charms the traveller—after he has safely passed over the road—although the thought of it may not be reassuring while he is in transit.

Caracas is a city of some 75,000 to 80,000 inhabitants. The houses are all of brick or adobe, one story in height, and built about a central court, or "patio," where are found usually fountains and numerous flowering plants and fruit-trees. All the rooms of the house open out of the patio, and the only light and air which they receive

come through the door, for windows, except in the rooms facing the street, are unknown. The climate is both good and bad. There are no extremes of temperature, such as are familiar to the dwellers in the North, but such excursions of the mercury as there are may sometimes be seen within a period of twenty-four hours. The thermometer may indicate 80° F. in the middle of the day, while at night and in the early morning the temperature may fall to 65° or even 55° F. Summer clothing may be worn the year round, but it is seldom safe to leave the house in the evening without being provided with a light overcoat to guard against a sudden fall of temperature. There is usually more or less rain during seven or eight months of the year, and during this period the air is nearly always damp. As a result of this, catarrhal affections are very prevalent, and even pneumonia is not unknown, though it is comparatively a rather rare disease. Pulmonary phthisis is, however, rather common. Liver troubles, especially among the foreign population, are of more or less frequent occurrence, but the ordinary tropical diseases are rare. A nondescript fever of mild type is common enough, especially when one has been soaked in a hard shower, but severe malarial fevers are infrequent. The city has been visited by yellow fever on several occasions, but it is now many years since any but sporadic cases of this disease have been seen. Measles and scarlet fever are of frequent occurrence in children, and diphtheria affects both children and adults to a considerable extent. Diarrhœa and dysentery are frequent causes of death in children. Rickets is said to be common; but either this is an error or else the disease is very fatal, for one sees in adults few cases of crooked legs or of other deformities usually referred to rachitis as a cause.

Cigarette-smoking is universal, the schoolboy of ten or twelve years being as great a devotee to the habit as the man of sixty, yet the practice seems to lead to no serious results, and affections of the naso-pharynx are no more common than one would expect to find in a damp climate where there are variations of twenty or twenty-five degrees Fahrenheit within a period of a few days, or even of a few hours. Eye troubles seem to be quite common, and a stranger is struck with the number of blind people in the streets. The blindness may possibly be the result of ophthalmia of the new-born, for cleanliness among the lower classes is a rare virtue, and gonorrhœa is common in male and female alike.

There are about one hundred and fifty practising physicians in the city, and most of them are kept moderately busy, though they are by no means overworked. The proportion of physicians to the population is about as one to five hundred—rather better than it is in New York and other cities in the United States, though not as good as it seems, for the larger part of the population is very poor and unable to pay living fees for medical attendance. The usual charge for an office visit is one dollar, and for a visit to the patient's house two dollars.

There are several hospitals in the city, one general hospital and a military and woman's hospital. There is a small orphan asylum and a larger one is building. There is also a leper hospital near the city, where there is quite a colony of these unfortunates, the disease being not at all uncommon in this part of Venezuela. A very large general hospital, The Varas, is now in process of construction, and will soon be ready for the reception of patients. It was started by Rojas Pául, who was Guzmán Blanco's successor in the presidency of the republic, and was originally intended to accommodate one thousand patients; but the plans have been altered somewhat, and there is now provision for only four hundred and forty beds. The general plan of the buildings is that of a central quadrangle, containing the doctors' quarters, operating-room, kitchen and administration buildings, and two wings, of ten pavilions and a chapel each, intended for male and female patients. The wards are one story in height, and have each twenty-two beds, besides a bath-room, water-closet, nurse's quarters, and drug-closet. The pavilions are separated from each other by gardens about twenty feet wide, containing flowering tropical plants, and they all face a large court where are fountains, flowering shrubs, and fruit-trees. At the end of each court is a very pretty little chapel. The hospital is very complete in its appointments, and the Caracans intend to spare no pains to make it the model institution of its kind in South America.

Caracas has a plentiful supply of water available for use, but the means for its distribution through the city are not very effective, and the inhabitants are so wasteful of it that at certain times in the day little or none can be obtained. The sewerage is poor, but the government is talking of building new sewers that will be amply sufficient to remove all the waste. The streets are rather poorly paved with small cobble-stones, but are kept passably clean. They resemble New York streets in that they are being constantly torn up by workmen laying gas-pipes, telephone wires, and the like.

Does Caracas present a good opening for a young physician from the United States? No. There are already more native physicians than are needed to alleviate the ills of the inhabitants, the fees are small, many of the people being too poor to pay anything at all for medical attendance, living expenses are very high, and the number of foreign residents who would employ a North American doctor is small. The dispensary evil has already taken root here, and promises to grow rapidly to large proportions, especially when the new hospital, with its out-door poor department, is completed.

THE "TEMPTATION OF JOHNS HOPKINS."

To the Editor of the Medical Record.

Sir: Pardon me if I suggest that the statements made in your editorial of November 15th, rather wittily entitled "The Temptation of Johns Hopkins," sound almost as if "made with intent to deceive." The generous gift of $100,000 is pronounced "ineffective," as if the university had announced an intention of immediately opening the projected medical school upon this foundation alone. But it is perfectly well understood that the school will not be opened until the full fund of $500,000 is collected. How, therefore, can the acceptance of the first fifth of this sum defeat the "expectation that the school was to start to work with a high-class equipment?" It is now, as ever, expected that the Johns Hopkins school "will draw the best educated and most ambitious students;" but these will come from among women as well as men. It will no longer be possible to absolutely deprive the best intellect in the one sex of the necessary opportunities which are freely accessible to the most mediocre capacities in the other. The universities of France, Switzerland, Italy, Denmark, Norway, Sweden, and Belgium have *not* found their "prestige impaired and their usefulness limited" by the admission of women to their just share in educational privileges. Why should the Johns Hopkins University be more impeded than they?

A richly endowed university is able to rise above the petty business calculations which so often "impair the prestige and limit the usefulness" of medical schools whose professors are paid out of the fees of the students. It is well known that precisely the same dread of losing students which has sufficed to exclude women from medical schools, has also sufficed to keep down in them the standard of medical education. There is no case on record in which the admission of women has lowered the standard. When women bestow money upon colleges devoted exclusively to men, their action is applauded as generous and public-spirited. Here one woman alone has given $50,000, from her private fortune, for the intellectual benefit of her own sex, and others have

worked and given with equal disinterestedness in proportion to their means. But now this public spirit is belittled as "persistent nagging!" How do Miss Garrett and Miss Hovey and their friends differ in spirit from John Harvard and Ezra Cornell? To John Garrett's influence was largely due the original direction of the Johns Hopkins bequest. It is nobly fitting that to John Garrett's daughter should be chiefly owing the just extension of the Johns Hopkins privileges to women. When there are a sufficient number of university medical schools open to women, isolated medical schools for women (as indeed for men) will fall into their natural position of intermediate or preliminary schools—feeders for universities—analogous, as Ex-President White has happily proposed for the smaller colleges, to the public schools of Eton and Rugby in their relations to the universities in England, or the gymnasia to the universities in Germany. Hence $100,000 given to one of these schools, though greatly needed, would not in the least degree supersede the necessity for the admission of women to such a university as the Johns Hopkins. The ladies' committees which are still working for the Johns Hopkins Medical School Fund would do well to use the ungenerous editorial in the RECORD upon their circulars. It well indicates a spirit that the world may hope to have seen disappear, when women shall have had the freedom of universities for a century.

MARY PUTNAM JACOBI, M.D.

NEW YORK, November 16, 1890.

[Our talented correspondent has ably presented her side of the argument. We are always pleased to hear from her on these questions.—ED.]

SCHOOLS AS SOURCES OF INFECTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In an editorial article on "The Prevention of Scarlet Fever and Diphtheria," in to-day's number of your paper, I am quoted as having proposed the appointment of school-physicians, which should examine the throats of the attending children every morning.

This is perfectly correct, yet this proposal was not made in an article headed "The Prevention of Scarlet Fever and Diphtheria," but in an editorial in the February number of the *Medic. Monatsschrift* of 1889. This article was headed "Schools as Sources of Infection," referring in particular to the public schools of New York. My proposal reads: "Discard lessons in physiology, give the children a longer recess at noon, and—last but not least—appoint one or more physicians for each school, to examine the throats of all children every morning. The expense would be light, and the result (with a non-political selection of physicians) necessarily an excellent one."

A United States Senator saw this article at the time, and wrote, asking me to assist him in drawing up a bill for legislation, which I refused to do. Since then this proposal has been repeated in medical literature without giving me credit for originality, so that at last I took occasion, at a meeting of the Pediatric Section of the International Medical Congress in Berlin, to thank the reader of one of the papers for having so carefully repeated my proposal there, written by me and read by him in my above mentioned article, a year and a half ago.

The MEDICAL RECORD was the first journal to give me credit for this idea, but it gives me more than I ought to have. The particulars as to the sums of money needed do not come from my article. I also never proposed to let children use their fingers as tongue-depressors, nor would I, for it might lead to overlooking many incipient cases of diphtheria in the lower pharynx.

By giving these lines a place in your esteemed journal, you will assist me in refusing such credit as does not belong to me. Respectfully yours,

A. SEIBERT, M.D.

137 EAST NINETEENTH STREET, NEW YORK.
November 15, 1890.

ANOTHER QUESTION OF PRIORITY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the issue of your journal of November 8th, there appeared an article by Dr. W. E. Forest, of this city, describing a new appliance for putting on plaster jackets, without the Sayre suspension apparatus.

The first seven paragraphs are devoted to the introduction, the disadvantages of the Sayre method, the advantages of the new plan, and in the eighth he discusses the construction of "my apparatus."

Those of your readers who examined the new device may be interested to know something more of the history, of the labor and travail with which the doctor brought forth this progeny. The conception took place in my office, when the doctor called to borrow my suspension apparatus, which was loaned him, and, in addition, he was given a detailed description of a new contrivance of my own, besides a drawing of it.

Its advantages in putting on the plaster-jackets, especially when working alone, were pointed out with the enthusiasm of an inventor, and which he has so faithfully reproduced for the readers of the MEDICAL RECORD.

It had been shown to two others only in this city—Professor Louis A. Sayre, and the late lamented Dr. Louis Hall Sayre; and to only two outside of the city—Dr. D. B. Cotton, of Portsmouth, O., and my nephew, Dr. Louis B. Smith, of Pennsylvania.

The description and drawing were given him in the summer of 1889, and in the fall he presented it to the New York Medical Union as his offspring. The information of his claiming the waif did not reach me until after the publication of the article, and could not, therefore, be disproved.

Under the circumstances the profession will not fail to appreciate the advantages of inventing from a plan, a model, or drawing, appropriated and lying before you, especially if the inventor has a description with the draft. Invention then becomes as easy as the friends of Columbus found it to stand an egg on end after seeing him do it.

In closing his communication to the MEDICAL RECORD, the doctor insists that to him belongs the credit of the "cross-bar for the child's hands, and the leaning position so as to get good extension."

The writer does not object to his having all the credit for his improvements (?); but does object to the form of his presenting them to the profession, which by inference implied that the important factor of good extension had been overlooked.

It had been explained to him that the frame should rest on two supports of equal height, and the upper extremity secured by a roller-bandage passing under the arms and around the cross-piece, and secured to it.

One of the family is then instructed to make slight or considerable extension by the feet, as the particular case may require. If more extension is needed, or more accurate measurement is desired, the feet should be secured by pieces of adhesive plaster and a roller (after the ordinary method), and to the plaster attach a rope and the pulleys; connect these to a pair of common spring scales fastened to the wall, on a level with the frame. The force can then easily be measured and maintained until the plaster has set.

These are mere details which anyone with the mechanical skill to put on a jacket can easily extemporize.

The easiest possible position for the patient, and for the operator, is thus attained, which is the prime motive of the device, and which object is neutralized by Dr. Forest's improvements.

One important factor is omitted as yet: the child should be placed on the cot with the face downward, after adjusting the shirt, and before the extension is applied, and the points of portuberance carefully padded and fastened. The patient is then turned over and the jacket finished in the usual manner.

In conclusion it must be stated that it is an unpleasant duty that is thrust upon me, that of charging a member of the profession, and a friend of many years, with appropriating a device and palming it off on the profession as "my apparatus."

DANIEL BROWN, M.D.
85 EAST TENTH STREET, NEW YORK.

FOOT-AND-MOUTH DISEASE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Till the gentleman who reported the discussion of my paper on "Foot-and-Mouth Disease," etc., on December 1, 1887, admits that he reported inaccurately what Professor Law and the other gentleman said upon the subject in question, I shall hold to the opinion I expressed in my reply to Professor Law's "Criticism."

Respectfully,

JOSEPH WILLIAM STICKLER, M.D.

THE DANGERS OF POWERFUL ELECTRO-MOTIVE FORCES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of November 1st there appears an article entitled "Electrolytic and Other New Uses of Storage Electricity," by Dr. Robert L. Watson. This article may exert a decidedly injurious influence if the statements contained therein are allowed to pass uncontradicted. If practising physicians who possess powerful galvanic batteries were to pass currents of one hundred ampères through their patients, as Dr. Watson claims he did, or even the one hundredth part of this current, the number of cases of electrocution would, in all probability, be considerably augmented.

Dr. Watson cites three cases. In two of these he claims that one hundred ampères of current were used for a period of five minutes. In the third case ten ampères of current were passed on two occasions for ten minutes each time. To the physician who comprehends the significance of the term "ampère," these statements will, of course, be appreciated at their proper value. But there may be many who may be tempted to emulate Dr. Watson, and attempt to remove nævi, warts, etc., by using currents of tremendous electro-motive force in order to obtain a great number of *milliampères*, thinking, perhaps, that the word "ampère" is a typographical error, and that "milliampère" is the word the author intended to use.

Many physicians possess batteries that will give a current of one hundred milliampères through one thousand ohms of resistance. The resistance of nævi, warts, etc., does not approach one thousand ohms. It is therefore quite possible for an operator to suddenly pass a current of high voltage through his patient in order to obtain the one hundred milliampères of current which he supposes are essential for the proper treatment of the case, but which, on the contrary, would be attended with great danger, especially if the application was made to growths situated on the head or face.

Dr. Watson's error consists in supposing that what is termed a "one-hundred-hour ampère storage cell" gives a current flow of one hundred amperes through any part of the body; whereas, the fact is, one storage cell, no matter what its size may be, even with only the slight resistance interposed by nævi, warts, etc., would barely indicate one milliampère.

"It is curious," says Dr. Watson, "but nevertheless a fact, that when a milliampère metre was included in the circuit with the nævus no current was indicated." The fact is that the current flow from one storage cell through the nævus was not equal to one milliampère, hence the needle of the milliampère metre was not deflected. One hundred ampères of current passing through his metre and his patient would probably have destroyed both of them simultaneously. Dr. Watson's plan of treatment is excellent, and if properly performed will do all that is claimed for it. From three to four cells of an ordinary galvanic battery, employed as Dr. Watson recommends, will usually give satisfactory results.

I have hoped that Dr. Watson would correct his error in a subsequent issue of the RECORD, and I have therefore delayed my letter till the present time, but the danger of allowing such erroneous statements to pass unheeded is so obvious that it does not seem to me advisable to keep silent.

Very truly yours,

GRÆME M. HAMMOND, M.D.

November 15, 1890.

THE NUBILE AGE AND EARLY MARRIAGE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: When I saw the RECORD'S comments on the above subject in the issue of November 1st, I hoped the next number would contain a response from one of your many able contributors. That the discussion before the Calcutta Medical Society should have elicited no scientific, manly, or indignant protest, so far from being construed favorably to child-marriage, will, perhaps, be considered by very many of your readers as indicative of a *lapsus mentis* on the part of the honorable members of the society, in view of the admission that "Cases of death from premature sexual intercourse (in India) are by no means rare, while the local injuries are often serious and permanent."

When "the Levite went to Bethlehem to fetch home his wife,"[1] and when his host "brought her forth unto the sons of Belial," to whose diabolic lust she was sacrificed, "because they would not hearken unto him," the judgment of Heaven, as understood by the Israelites, could not be satisfied until the power of the lustful and haughty Benjaminite was humbled, though to do so required that tens of thousands of the men that drew the sword should be "destroyed down to the ground."

With every advantage of climate and soil, with a country presenting "an epitome of the whole earth," an offshoot from the same Aryan stock as ourselves, who can doubt that the chief cause of imbecility in the Hindoo is their insensate and cruel treatment of their women—an imbecility permitting, for over a century, a handful of Englishmen to rule over their teeming millions.

History repeats itself, and there seem to be indications that, as of old—but in a higher form—the functions of priest and physician may again become blended.

Is it safe or practicable to divorce morals and medicine?

The wretch who, despite the struggles and entreaties of his helpless child-wife, causes her "death from premature sexual intercourse," is a more monstrous villain than if, in sudden anger, he should plunge a dagger into her heart. "*Facilis descensus Averni.*"

Yours, respectfully,

W. F. MORGAN, M.D.
LEAVENWORTH, KAN.

Remarkable Fecundity.—Dr. J. De Leon, of Ingersoll, Tex., has reported a recent experience with the delivery of quadruplets. The first child had its own placenta; the second and third had their placenta; the fourth had also a placenta. They weighed at birth in the aggregate nineteen and a half pounds without clothing—first weighed six pounds; second, five pounds; third, four and a half pounds; fourth, four pounds. The mother is a blonde, about thirty-six years old, has given birth to fourteen children, twins three times before this; one pair by her first husband. She has been married three years, and has had eight children in that time.—*Dietetic Gazette.*

[1] Judges xix. 20, 21.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 9 to November 15, 1890.

WALKER, FREEMAN V., First Lieutenant and Assistant Surgeon, Fort D. A. Russell, Wyo. Granted leave of absence for one month, to take effect on or about the 15th instant. S. O. 85, par. 3, Department of the Platte, November 11, 1890.

COWDREY, STEVENS G., Major and Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 112, Department of Arizona, October 24, 1890, is extended fifteen days. S. O. 263, Headquarters of the Army, A. G. O., Washington, D. C., November 10, 1890.

MCELDERRY, HENRY, Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence on account of sickness, granted in S. O. 214, September 12, 1890, from this office, is further extended two months on surgeon's certificate of disability. S. O. 263, par. 28, A. G. O., Washington, D. C., November 10, 1890.

ALEXANDER, CHARLES T., Lieutenant-Colonel and Surgeon, and MIDDLETON, JOHNSON V. D., Major and Surgeon. By direction of the Secretary of War, are appointed members of a board of officers, appointed to meet at the call of the senior officer thereof, at the rooms of the Board of Engineers, Army Building, New York City, to examine such officers of the Corps of Engineers as may be ordered before it, with a view to determining their fitness for promotion, as contemplated by the Act of Congress, approved October 1, 1890. S. O. 261, par. 4, A. G. O., Washington, D. C., November 7, 1890.

NORRIS, BASIL, Colonel and Surgeon, and STERNBERG, GEORGE M., Major and Surgeon. By direction of the Secretary of War, are appointed members of a board of officers, appointed to meet at the call of the senior officer thereof, in San Francisco, Cal., to examine such officers of the Corps of Engineers as may be ordered before it, with a view of determining their fitness for promotion, as contemplated by the Act of Congress, approved October 1, 1890. S. O. 261, par. 5, A. G. O., Washington, D. C., November 7, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 15, 1890.

OWENS, THOMAS, Surgeon. Ordered to the Museum of Hygiene, at Washington, D. C.

MARTIN, H. M., Surgeon. Detached from the Receiving-ship Wabash, and ordered before Retiring Board.

RIXEY, P. M., Surgeon. Continued in charge of Naval Dispensary at Washington, D. C., until November 20, 1891.

GREEN, E. H., Passed Assistant Surgeon. Promoted to Surgeon, November 10, 1890.

SMITH, HOWARD, Surgeon. Placed on the retired list, November 10, 1890.

Good Effect of Darkness on Nutrition.—Dr. S. Klein, has made a communication to the Medical Association of Vienna on the effect of darkness in a case of retro bulbar neuritis, in which, after the author had ordered treatment in the dark, marked increase of appetite and nutrition occurred, both of which had been previously much impaired. He confirmed this observation afterward by a whole series of experiments, and consequently suggests treatment in the dark for cases in which it is desirable to increase the nutrition and appetite.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 15, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	21	10
Scarlet fever	65	7
Cerebro-spinal meningitis	1	1
Measles	183	11
Diphtheria	84	27
Small-pox	0	0
Varicella	1	0
Pertussis	1	0

The Berlin Sewerage System.—The following facts concerning the Berlin sewerage system, which Virchow praised so highly in his opening address to the International Medical Congress, are communicated by Dr. Hobrecht, Municipal Councillor on Public Works. Berlin is divided into twelve radial systems, of which systems 1 to 7 have already been at work for some time. System 8 is in full course of construction, and will be at work in the course of this year. System 9 is also in course of construction. System 10 is almost finished. System 11 is still only a project, but system 12 will be finished in 1891, or at latest in 1892. The question whether and in what measure the sewerage system has improved the health of the population is answered by Dr. Hobrecht thus: "It is certain, and has been officially stated, that infectious diseases, especially typhoid fever, have decreased; it is probable, however, that in the present state of science no one is able to maintain that this is due to the sewerage system, while the time since the completion of the works has been too short to admit of an empirical inference in this direction. Hygiene, on the other hand, adheres to the principle that it is of importance to promote cleanliness in water, air, and soil. The sewerage system of Berlin has satisfied this demand in a degree partly attained in some other cities, wholly in none. No other city, however, of more than a million inhabitants can boast of the achievement that the water of the river that flows through it, especially if so small as the Spree, is clean, and that the same may be said of the water of the main ditch, which, after the removal of the suspended and dissolved impurities by irrigation and drainage, carries off the waste water of nearly half a million people."—*The Lancet.*

Poor Condition of Our Public Baths.—The condition of the public baths in this city shows the great importance of having all the sanitary arrangements, controlled by our public authorities, under the direction of competent medical inspection. It has been recently found that all of the public baths, except the Battery, which have been daily patronized by thousands of the poor, are so unhealthy that the bathers are liable to contract in them not only severe forms of ophthalmia, but other diseases. The water has been found not only filled with more or less noxious particles, but the bottom contained unhealthy deposits. This can hardly be avoided, except in such exposed places as the Battery, under the present system of sewers and docks, where the filth pouring out from the sewers collects in and about the slips and docks. The Battery is the only point along the line of the densely populated city which escapes the wash of filth borne down by the tide of both rivers and washed out to sea, and to this point at present it is clear the salt water baths should be confined. Fresh-water swimming baths, free to the poor, could easily be established, from the large amount of Croton water now at our disposal, in different parts of the city where there would be no danger of contracting diseases. If a portion of the enormous sums of

money now expended in public and private hospitals and infirmaries were devoted to the prevention of disease by securing better sanitary conditions, our city, instead of ranking as one of the most unhealthy cities in the civilized world, would soon take its proper position as the healthiest. When the people insist that our sanitary affairs, including sewerage, docks, and streets, shall be taken out of the hands of mere politicians and put in those of scientists who understand their business, this end will be accomplished.—*New York Medical Times.*

Longevity.—When the French Ministry, some twenty-five years ago, issued a circular to all its préfets making inquiries as to the conditions most favorable to longevity, all the reports agreed in naming a well-to-do condition of life as most important, if not quite indispensable. It should also be borne in mind that the most wonderful cases of longevity are almost invariably reported from countries where verification of the asserted facts is impossible. For instance, *The Lancet* some time ago quoted the case of an old man of Bogota, San Salvador, who "confessed to being one hundred and eighty years old, though his neighbors believed him to be much more." With no possible check from authentic records, his kindly neighbors might well have given him an additional century with impunity. Something of this kind doubtless happened in the case of an old native of Bengal, who was reported by Dr. C. W. de Lacy as having attained the antediluvian age of three hundred and seventy. Dr. de Lacy reports several cases as to which we recommend a due degree of doubt. A certain Thomas Whittington, who died in 1804, at the reputed age of one hundred and four, never drank, we are seriously told, any liquor but gin, but of that fiery compound he consumed from a pint to a pint and a half daily. This is probably more than any of the doctor's readers will find it easy to swallow! Walter Savage Landor tells of an old man whose own testimony, if true, proved him to be twelve or thirteen years over a century, but who would only own to eighty-nine, like some young ladies who object to passing thirty, and somehow manage to remain forever at the age of twenty-seven. On being told of a man in Russia who was one hundred and thirty-two years old, this comparative youth of eighty-nine replied, "Very likely he is more, but won't own it; people when they are getting a little on in years don't like to say anything about it." It is well known, however, that a contrary disposition generally shows itself, and people who have attained to a very old age develop an ambition to be thought rivals of Methuselah. Personal appearance is no criterion to judge by. The popular expressions, "aged," "very aged," often signify merely white hairs or baldness, or paralysis, quite irrespective of the number of years the persons so described may have lived. To parody the remark on Lord Thurlow's face, it may be said that nobody ever was so old as they look.

The Sanitary Value of Slack Water.—J M. Safford publishes, in the *Tennessee State Board of Health Bulletin*, a paper upon the influence of slack water navigation upon the public health. Slack waters form a series of pools in the course of a stream. The water is not stagnant, as in a pond, but the flow is regulated by the supply; the level remaining near the same point at all times. By this means the uncovering of areas usually under water, and the occasional flooding of low lands usually dry, are in some measure prevented. Low, marshy spots near the stream are also covered; and from all these it results that the most fruitful sources of malaria are shut off. If the water be used for drinking purposes, the slack waters act as subsiding reservoirs; and, as fresh-water plants grow more luxuriantly in them than in the shallow and rapid current of the natural channel, the water is purified by the action of both these agencies. Flushing is accomplished by heavy rains, and by the spring freshets. Analysis of the river and well waters at Zanesville, by Dr. Culbertson, showed that the river water was beyond comparison the purest; and the same writer states that the death-rate from malaria, pneumonia, and diarrhœa is now less than it was in 1869. Along the Shenango Valley the abandonment of the Erie Canal, and letting out of the slack waters, has resulted in a wide-spread prevalence of malaria, which has not disappeared after ten years, though the type of disease has been somewhat modified. Here, low tracts were uncovered which had for many years been under water, accumulating mud, laden with organic matter in abundance. The river water was not used for drinking, and the ague arose from emanations from the soil.—*Times and Register.*

Prince Bismarck and Mr. Gladstone on the Effects of Modern Education.—Two great authorities on social matters have lately expressed their personal opinion on the results of modern education as to its effects upon the well being of the population. Prince Bismarck thinks that higher education for the lower classes has been too widely spread, and in a recent conversation is reported to have said: "Over-education in Germany leads to much disappointment and dissatisfaction; in Russia, to disaffection and conspiracy. Ten times as many young people are educated there for the higher walks of life as there are places to give them, or opportunities for them, in the liberal professions, to earn a decent living, far less wealth and distinction. Perhaps it is not quite the right kind of learning, too. What good does it do them? When they have gone through it, in nine cases out of ten, there is nothing for them to do, and their learning is worse than a superfluity to them, for it makes them discontented—nay, miserable." Mr. Gladstone takes a different view, but believes that classical education should only be given to those likely to profit by it in after life. He is strongly desirous to promote physical and corporal education generally, and attaches much value to the training of the eye and the hand; for this purpose he urges that some branch of natural history should have a higher place in the modern theories of education than it has yet obtained. In these days, when many medical men see reason to believe that education in too many cases exhausts and injures the nervous system, in place of developing and strengthening it, it is interesting to know the opinion of great statesmen of experience. The question is a very serious one, and demands inquiry as to the effects of our educational system upon the brains of the young.—*British Medical Journal.*

Intestinal Calculus from Abuse of Vichy Water.—Dr. Loviot described, before the Paris Obstetrical and Gynecological Society last autumn, a case where he discovered a scybalous mass in the pelvis of a woman, aged thirty-two, who had been under his observation for over nine years. She suffered severely from constipation, and within five years spent 250 francs in the purchase of Vichy water powder. Besides drinking the powder in solution daily, she also took tamar, and administered to herself enemata. Defecation became very painful, leaving the sensation—not an illusion in her case—of a ball pressing on the perineum. Dr. Loviot succeeded in partially breaking the mass down by means of a blunt curette, then it was easily extracted through the anus without any laceration of the sphincter. The mass was as big as a small orange and very hard. The outer part consisted of dry fecal matter, infiltrated with salts. In the interior was a white calculous mass of salts. M. A. Guérin, in discussing Dr. Loviot's case, spoke of another where severe diarrhœa was caused by the scybalous body. The mass itself was so hard that it had to be broken up by placing against it the end of an iron gouge, the handle of which was carefully struck by a mallet. With care the fragments were extracted without wounding the bowel or the anus. The diarrhœa immediately ceased.—*British Medical Journal.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 22.
Whole No. 1047.

NEW YORK, NOVEMBER 29, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE PRESENT STATUS OF THE OPEN INCISION METHOD FOR TALIPES VARO-EQUINUS.[1]

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SINCE publishing my first paper, in 1881, on the operation of open incision in club-foot, I have operated upon one hundred and sixty-one cases, which I desire to report upon at this meeting. At that time, and in a subsequent paper published in the "Transactions of the Eighth International Congress, Copenhagen," my observations were

FIG. 1.—Shows not an uncommon result following primary osteotomy. There had been a resection of the astragalus in one foot and cuneiform tarsectomy in the other. Photograph made of a case in the practice of an eminent European surgeon.

not extensive enough to enable me to speak with any degree of authority upon the subject. My convictions as to the advisability of the method, however, were strong, and upon theoretical grounds, sustained by a limited number of cases, with results, I advised the operation. Mature experience now enables me to correct, or I might say more clearly define, many points which at that time could not be made perfectly clear. I argued then for the operation. Now I desire to present a method which should govern all operative procedures in club-foot, giving to the operation its proper place in surgery. The difficulties which the profession have encountered have been the varied methods and operations which from time to time have been urged as the cure for all cases; and only after a personal application of the method or operation urged has the operator discovered that his ship of anticipation has been wrecked upon the rock of experience. Primary osteotomy, astragalus resection, cuneiform tarsectomy, open incision, and prolonged and interrupted traction with intricate machinery have all run the gauntlet of observation, and the roadside everywhere is strewn with lamentable failures.

Why should this be so? Simply that method, based upon some pathological fact and data of experience, has been ignored.

I do not at this time care to discuss the etiology and pathology of talipes varo-equinus. Permit me to say, however, that in all the pathological specimens which I have examined, the distortion of the soft part has been out of all proportion to the deformity of bone; and many specimens of severe deformity, which I have in my collection, show but slight bone-deformity, and that is confined chiefly to the neck of the astragalus, while in other specimens the os calcis is also deformed. These distortions, added to a great dislocation of the small bones of the tarsus, with changes in their articular surfaces, constitute the bone-deformity of talipes varo-equinus in a very large per cent. of cases occurring in children. Now, if these observations are correct, and we can with perfect safety to foot and life divide extensively soft parts, and secure useful feet in a short time, or as good results as can be obtained by any other method, are we justified in performing a primary osteotomy or resection of the astragalus? Clearly not, for the results after primary bone operations are no better. Failures are common, and the mortality is about five per cent., whereas in operations on soft parts there is no mortality (see Fig. 1).

And, then, are we justified in treating a case by instrumental means for years, when a moment's work with the tenotome or knife would shorten the period of treatment to as many weeks, with a result equally as good? Certainly not, if the patient will consent to an operation. The tinkering and fooling with club-foot with traction

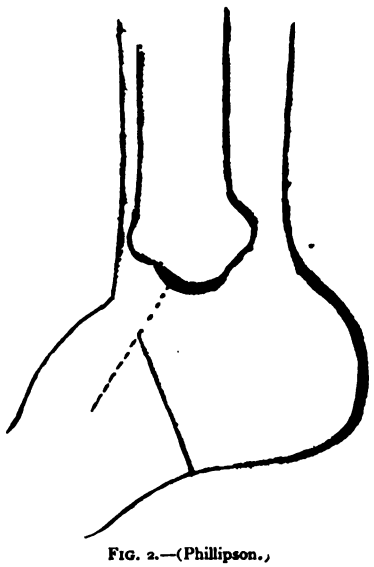

FIG. 2.—(Phillipson.)

machines, covering over long periods of torture reckoned by years, with all its failures, brought orthopedics of the past into disrepute. The surgeon and patient became disgusted, and out of the chaos and wreck we saw methods devised which shortened the period of treatment, and cured cases which chagrined the orthopedist on account of his failures. These methods of mechanics, when carried to extremes, as we have all been obliged to witness, degrades the orthopedic surgeon to the level of the orthopedist or mere instrument-maker, and one step farther carries him, with all his good intentions, within the vale of empiricism and quackery. Again, on the other hand,

[1] Read before the Tenth International Congress, Berlin.

the surgeon becomes impatient with all his cases and devises an operation. It proves serviceable in many cases, fails in others, until he finds himself blindly following his operation and not a principle, mutilating feet unnecessarily, and finally, in disgust over failures, abandons his operation.

A remedy for all this is a method, and nearly every

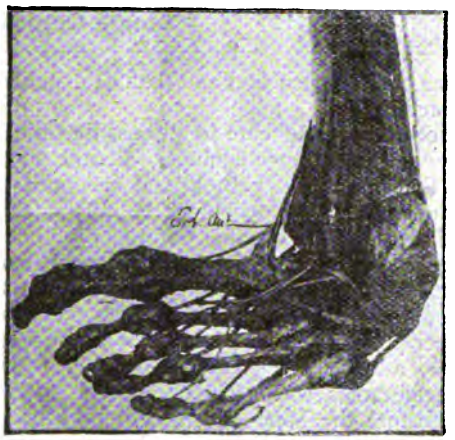

FIG. 3.—Specimen in the College of Surgeons, London, showing Arrangement of Tendons in Varus.

operation ever devised will find its legitimate place in surgery.

The method which I propose to govern the management of club-foot, requiring operative work, is this:

1. Exclude all cases which, by manipulation or force, can immediately or in a reasonable length of time be cured; then the following rule should be followed.

2. Cut the contracted parts as they first offer resistance, cutting in the order of those parts which first contracted when the deformity was produced.

The operator will then proceed, after strong manipulation or force is applied with a club-foot machine or with the hands (see Figs. 7 and 8), to subcutaneously divide, first the tendo-Achillis. *If the skin is not short*, subcutaneous tenotomy in the sole of the foot will usually suffice. *If the skin is short*, an open incision one-fourth the distance across the foot can be made, beginning directly

FIG. 4.—Specimen from the College of Surgeons, London, showing Muscles and Tendons in Varus.

in front of the inner malleolus and carried down to the inner side of the neck of the astragalus (see Fig. 2). Through this incision the following tissues can be cut, if they offer strong resistance, in the order given: (*a*) Tenotomy of tibialis posticus (see Fig. 3); (*b*) division of abductor pollicis (see Fig. 4); (*c*) division of plantar fascia through the wound; (*d*) division of flexor brevis muscle; (*e*) division of long flexors; (*f*) division of deltoid ligament, all its branches (see Fig. 5).

3. Linear osteotomy through the neck of the astragalus (see Fig. 6.)

4. Resection of a wedge-shaped piece of bone from the body of the os calcis, the point meeting the linear osteotomy through the neck of the astragalus. The foot will now swing to a straight position (Fig. 6).

This method of osteotomy is a correction of my former paper, in which the cuneiform section was taken from the cuboid bone.

In the management of club-foot it often becomes necessary for the operator to apply more force than can be done by the hands, not only during the time of the operation, but in the subsequent treatment of the foot as well.

In nearly all cases of varo-equinus there is a shortened condition of the ligamentous contraction posterior to the

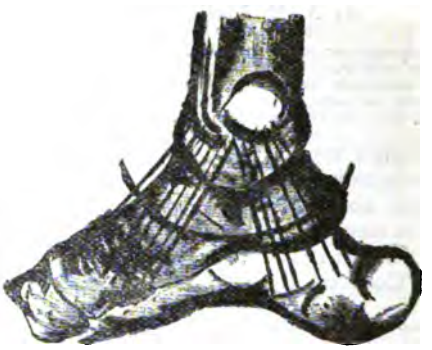

FIG. 5.—Incision under the Skin for the Ligament (Phillipson).

ankle-joint, and also an inward rotation of the os calcis. In such cases there is not sufficient power in the hand of the operator to overcome the ligamentous contraction.

To fulfil all of these requirements, I have devised a machine which will be found invaluable. It can be used in the class of cases above indicated, and also for the purpose of placing the foot in the proper position before the application of the water-glass shoe and plaster-of-Paris dressing, or the application of any form of apparatus.

It consists of a combination of levers and screws so adjusted as to apply the force in the proper direction, varying from a single pound to one ton in force. The bed-piece (Fig. 7) is fastened to a table by means of the clamp, 15; 14 is an adjustable slide working upon the cross part of the bed-piece. After having etherized the patient, he is placed in the machine with his leg flexed, as seen in Fig. 7.

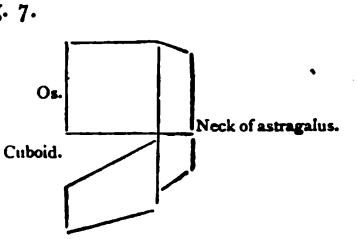

FIG. 6.

The slide, 14, is adjusted to prevent the leg from slipping. The straps 10, 11, and 12 hold the leg in a firm position on the bed piece; 16 is a fulcrum, into which the end of the lever, 1, is inserted for the purpose of making the pressure upon the os calcis by means of the pad. 4, 5 is the adjustable fulcrum into which the end of the other lever is inserted. The foot is attached to this lever by means of straps, 7, 8, and 9, Fig. 7, and 5, 6, and 7, Fig. 8. The straps, 5 and 6, are attached to the nuts, 4, 4, by turning the screws, 2, 2, which are held in the proper position by the framework, 3.

Any amount of force can be applied to the heel and instep. The jack can be adjusted to the lever as seen in Fig. 7, the strap, 7, passing around the foot, as is seen in Fig. 8, secures the toes firmly. The operator and his assistant turn up the screws, applying any amount of force

required. The operator now, with his canting lever, 3, in his hand, flexes and rotates the foot, breaking it across the adjustable fulcrum, 6, while his assistant holds the heel firmly with the other lever. As flexing force is applied

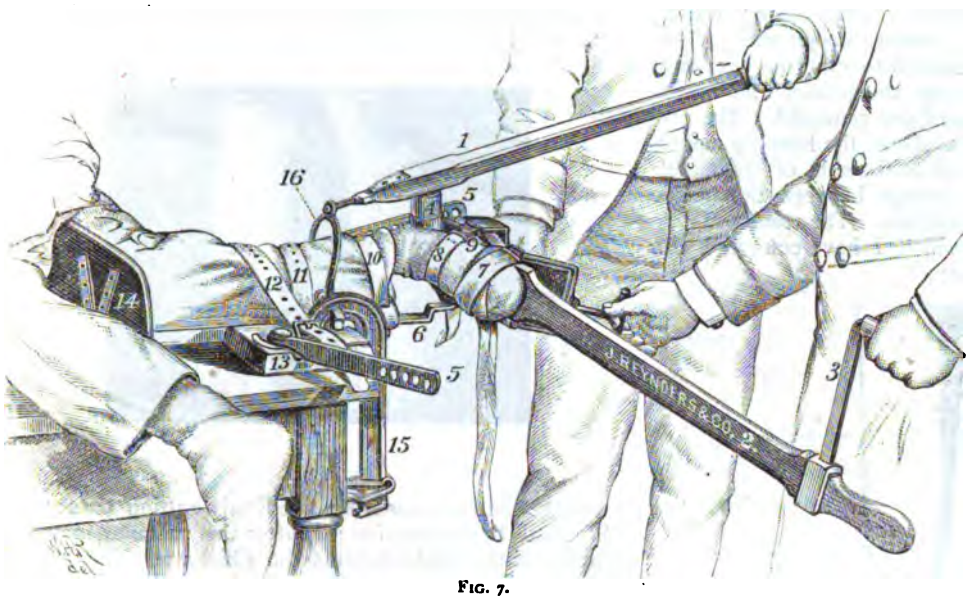

FIG. 7.

by the large lever, the leg is prevented from slipping by the adjustable slide, 14.

This machine will not only be found invaluable in all cases of club-foot, but more particularly so in those severer forms of club-foot requiring operation. The operator from time to time can adjust the machine and apply any amount of force, breaking ligaments which he would find difficult or impossible to cut. In the after-treatment of club-foot it will be found most useful.

The operator should not cease operating until the foot is super-corrected, otherwise a relapse may be looked for, beginning with manipulation, either with the hand or the club-foot machine, or both, and concluding, if neces-

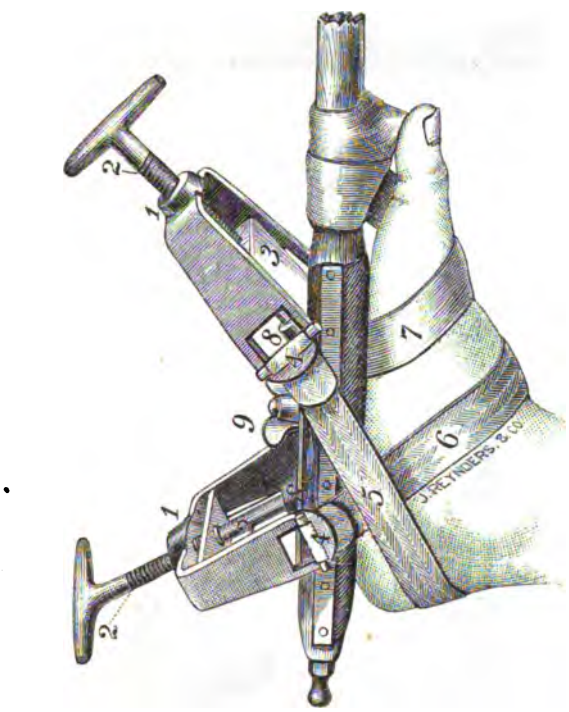

FIG. 8.

sary, with extensive osteotomy, pursuing the order of procedure as recommended above. Failures occur because the operator concludes his work before the foot is straight, and guesses that he can correct the deformity left by proper after-treatment, which. as a rule, he cannot do.

Another source of failure is bad dressing. The desire to use some pet splint, or devise some new scheme, accounts for the disappointment with results.

Failing to super-correct by operation and some worthless wooden or metal splint so adjusted as to make undue pressure upon the resisting foot produce sloughing or even gangrene. When the foot has been once super-corrected, it will then rest in proper dressings without resistance or pressure, and sloughing is never seen.

The Operation. — Prepare the foot by scrubbing, scraping, and antisepticizing with bichloride of mercury solution, 1 to 1,000, the night before. Carefully see that every detail of antiseptic surgery is followed at the time of operating. Then cleanse the foot with iodoform, 1 part; ether sulph., 8 parts. Apply the Esmarch bandage.

Keep up a constant irrigation with bichloride solution, 1 to 2,000 during the operation. After strong manipulation, either manual or instrumental, and subcutaneous tenotomy, make the open incision already described in Fig. 2, cutting in the order already suggested. Use strong force

FIG. 9.

after each tissue cut. Nothing will be gained by dividing soft parts more extensively than suggested above. If the foot still resists and cannot be placed in a super-corrected position, linear osteotomy, and finally cuneiform resection, should be done (see Fig. 6). In two cases, in adults, I found it necessary to remove both cuboid and scaphoid bones. Open incision in children under one year of age I have never found necessary.

The Dressings.—Sponge out the wound, then apply, 1, Lister's protective, not rubber tissue; 2, antiseptic gauze, a large quantity; 3, antiseptic bandage; 4, absorbent cotton to knee; 5, over all a plaster-of-Paris bandage, holding the foot in the super-corrected position, until the plaster sets; avoid making pressure either by dressings or twisting the foot too far outward; 6, remove the Esmarch bandage; 7, sling the foot to a nearly perpendicular position for six hours or longer. Organization of blod-clot usually occurs, but it is not essential to a good result.

My last cases were dressed as indicated, but the wound was filled with chopped-up fine cat-gut. Organization was perfect in each case. Fig. 9 shows scarring in a foot four weeks after the operation. Fig. 10 shows position of scar and appearance of the foot at the fourth

week; Figs. 11 and 12, the condition before and three weeks after the operation; Figs. 13 and 14, the deformity and the method of after-treatment by means of hooks and plaster one year after.

After-treatment.—The plaster-of-Paris shoe; water-glass shoe and the hooks and plasters answer well. The hooks and plasters are well adapted to children over two years of age. Fig. 14 represents the plaster and hooks as applied to the feet, the bandages removed. The upper hook connects with a belt above the hips by means of a tape, which tape is secured to the side of the leg at the knee with a strap. The lacings between the hooks hold the foot in the normal position. The results of my series of cases and of those which I have compiled will be found in the table on p. 597.

FIG. 10.—(Gerster.)

In conclusion, equino-varus, after any operation, or mechanical treatment, is quite likely to relapse. For months, and even years, the surgeon will need to carefully look after many of his patients. I have seen relapses following mechanical treatment which had been carried out for years, in every form of osteotomy, and

FIG. 11.

more particularly excision of the astragalus. In my travels through Germany I made casts of feet which had relapsed after these osteotomies in the hands of some of the most eminent and distinguished German surgeons, and the same observations are to be made in every country. An operation only straightens the feet; when this has been accomplished the treatment (and not until then can treatment be said to begin) is only commenced. The slight twist in the neck of the astragalus will not be found a serious obstacle in the way of cure, unless excessive, in which class of cases it should have been divided with a chisel at the time of operating.

What are the limits of the application of this operation? 1, Eliminate all cases which by the hand can easily be placed in a normal position; 2, eliminate all of those cases which can by subcutaneous tenotomy be perfectly relieved with accompanying proper after-management. Then open incision will find its legitimate place in surgery.

What are the advantages of the operation? 1, Cutting parts as they offer resistance in their respective order

FIG. 12.

prevents the operator from needlessly cutting tissue not deformed by contraction; 2, after the subcutaneous tenotomy of the tendo-Achillis the tibialis posticus tendon is easily cut, through an open wound, near its attachment to the scaphoid, ligamentous contraction at this point can also be then divided; 3, through this open wound contracted parts can be extensively cut without wounding the plantar arteries or nerves; 4, after all contracted

FIG. 13.

soft parts have been divided, including the skin (which, by the way, in this class of cases is always short, and from its intimate connection with the plantar fascia would defeat the object of the operation), the operator can ascertain the amount of deformity of the bones, and if any considerable amount exists it can be easily remedied with a chisel; 5, it restores the foot to its natural length by lengthening the shortened side; 6, it makes the surgeon

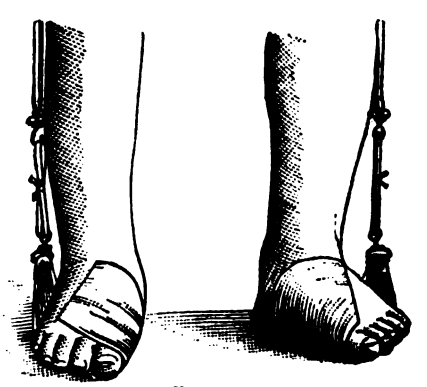

FIG. 14.

master of the situation; he advances step by step in a proper order, and need not stop or retreat until the deformity is overcome, beginning with manipulation and subcutaneous tenotomy, and ending with osteotomy, if necessary.

I desire to say that osteotomy should not be resorted to as a primary operation, and not until after the contracted soft parts have been lengthened, for the reason that in primary osteotomy the bones of the foot must be shortened just in proportion to the amount of shortening of the soft parts; and in a vast majority of cases of this form of intractable club-foot it will be found unnecessary after the steps which I have detailed have been taken. And certainly no operator can determine the amount of deformity in the bones until after he has relieved all the contracted soft parts, and a slight deformity in the bones had better be left than to resort to an extensive osteotomy.

Number.	Age.	Form.	Wound healed in —	Duration of after-treatment.	Result after 4 months.	Previously operated on by—	Blood-clot organization.	Remarks.
1	4 years.	Double.	4 weeks.	11 years.	Perfect.	Tenotomy.	.....	A case of true congenital paralytic talipes varo-equinus.
2	3 "	"	3½ "	1 year.	Relapse.	"	.....	Relapse from neglect.
3	6⅛ years.	"	4 "	2 years.	Perfect.	"		
4	8 years.	Single.	4 "	2 "	"	Mechanics.	.....	Wore braces five years.
5	5 "	Double.	4 "	3 "	"	"		
6	14 months.	"	3⅛ "	3 "	"	"		
7	13 years.	"	4 "	4 months.	"	Tenotomy.	.....	Linear osteotomy.
8	9 years.	"	4 "	3 years.	"	"		
9	12 years.	"	3½ "	2 "	"	"		
10	8 years.	"	4 "	1 year.	"	"	.....	Linear osteotomy.
11	15 years.	"	4 "	1 "	"	"	.....	" " and cuneiform resection.
12	17 "	"	5 "	1 "	"	"	Yes.	" " " " "
13	10 "	"	3½ "	1 "	"	Mechanics.	"	For four years wore braces.
14	7 years.	"	4 "	1½ year.	"	"	"	
15	19 years.	"	5 "	6 months.	"	Tenotomy.	"	Non-congenital.
16	6 years.	"	4 "	1 year.	"	"	"	
17	9 "	"	4 "	6 months.	"	"	"	
18	2 "	"	3 "	2 years.	"	"	"	
19	5 "	Single.	4 "	2 "	"	Plaster of Paris.	"	Relapse after one year; neglect.
20	4 "	"	4 "	1 year.	"	Tenotomy.	"	
21	7 "	"	4 "	1½ year.	Fair.	"	No.	Parents neglected him; poor.
22	2 "	Double.	3½ "	1 year.	Perfect.	....	Yes.	
23	6 "	"	4 "	8 months.	"	Tenotomy.	"	Non-congenital.
24	9 "	"	4 "	6 "	"	"	"	
25	8 "	"	4 "	1 year.	Good.	"	"	
26	3 "	"	3½ "	1 "	Perfect.	"	No.	Partial relapse after one year.
27	5 "	Single.	3 "	1½ year.	"	"	Yes.	
28	1½ year.	Double.	3 "	2 years.	"	.....	"	
29	13 years.	Single.	5 "	1 year.	"	Tenotomy.	"	
30	18 "	"	6 "	6 months.	Good.	Mechanics.	"	Club foot shoes for fifteen years.
31	10 "	Double.	4 "	1 year.	Perfect.	Tenotomy.	"	Linear osteotomy.
32	9 years.	"	5 "	6 months.	"	....	"	" "
33	2 "	"	3½ "	1 year.	"	Tenotomy.	No.	
34	22 years.	Single.	5 "	4 months.	Good.	.....	Yes.	Linear and cuneiform osteotomy.
35	1½ year.	Double.	4 "	2 years.	Perfect	Tenotomy.	"	
36	31 years.	Single.	5 "	6 months.	"	"	"	Linear and cuneiform osteotomy, removal cuboid and scaphoid.
37	9 years.	Double.	4 "	1 year.	"	"	No.	Non-congenital.
38	4 "	"	3½ "	1½ year.	"	"	Yes.	
39	3 "	"	4 "	3 months.	"	"	"	Relapsed after one year, from bad neglect.
40	5 "	Single.	3½ "	4 "	"	"	"	
41	2 "	"	4 "	6 "	"	"	"	But relapsed after one year, from bad management.
42	3 "	"	4 "	7 "	"	"	"	
43	5 "	Double.	4 "	1 year.	Good.	.....	No.	
44	8 "	"	5 "	6 months.	"	.....	"	
45	3 "	"	4 "	3 "	"	Mechanics.	Yes.	Relapsed from neglect one year later.
46	12 years.	"	5 "	4 "	Perfect.	"	"	
47	16 "	"	6 "	6 "	Good.	.....	"	Linear osteotomy, cuneiform resection.
48	4 years.	"	3½ "	1 year.	"	.....	"	
49	5 "	"	4 "	4 months.	Perfect.	Tenotomy.	"	
50	13 years.	"	5 "	6 "	"	"	"	Non-congenital.
51	11 "	Single.	4 "	1 year.	"	"	"	
52	9 years.	Double.	5 "	2 months.	Good.			
53	8 "	"	4 "	3 "	"	Tenotomy.	Yes.	
54	5 "	"	3½ "	4 "	Perfect	"	"	
55	7 "	"	4 "	5 "	"	.....	"	Non-congenital.
56	2 "	"	4 "	3 "	"	Tenotomy.	No.	
57	3 "	"	5 "	4 "	"	"	Yes.	
58	7 "	Single.	4 "	8 "	Good.	.....	"	Relapse partial after one year, from neglect.
59	7 "	"	4 "	1 year.	"	.....	"	
60	2 "	"	3½ "	6 months.	"	Tenotomy.	"	
61	5 "	Double.	4 "	1 year.	Perfect.	"	"	
62	16 years.	"	6 "	4 months.	Good.	"	"	Linear osteotomy.
63	9 years.	"	4 "	2 "	"	.....	No.	
64	11 years.	Single.	5 "	3 "	"	Tenotomy.	Yes.	Linear osteotomy.
65	21 "	"	7 "	6 "	"	"	"	Linear osteotomy, cuneiform resection, removal cuboid and scaphoid; slough from tight dressing.
66	4 years.	Double.	4 "	1 year.	Perfect.	"	Yes.	
67	8 "	"	5 "	4 months.	"	"	"	Linear osteotomy.
68	7 "	"	5 "	3 "	"	"	"	
69	4 "	"	4 "	5 "	"	"	"	
70	4 "	Single.	4 "	8 "	"	"	"	Linear osteotomy.
71	7 "	Double.	4 "	1 year.	Good.	"	"	Relapse after one year, from neglect.
72	6 "	"	4 "	3 months.	"	.....	"	Partial relapse from neglect.
73	9 "	"	5 "	4 "	"	.....	"	
74	13 months.	"	4 "	6 "	Perfect.	Tenotomy.	"	
75	17 years.	Single.	6 "	4 "	Good.	"	"	Linear osteotomy, cuneiform resection.
76	5 years.	Double.	5 "	8 "	"	"	No.	
77	8 "	"	5 "	1 year.	"	.....	"	
78	12 years.	"	5 "	6 months.	Perfect.	Tenotomy.	Yes.	Linear osteotomy.
79	3 years.	"	4 "	4 "	"	"	"	
80	5 "	Double.	4 "	6 "	"	"	"	
81	3 "	"	4 "	3 "	"	"	"	
82	6 "	"	5 "	4 "	"	"	"	Non-congenital.
83	8 "	Single.	5 "	1 year.	"	"	"	
84	3 "	Double.	4 "	3 months.	Good.	Mechanics.	"	Club-foot shoe.
85	10 years.	"	8 "	4 "	"	"	"	Sloughing from tight dressing.
86	1½ year.	"	4 "	2 years.	Perfect.	Tenotomy.	"	
87	7 years.	"	5 "	1 year.	"	.....	"	
88	2 "	"	3½ "	6 months.	"	Tenotomy.	No.	
89	6 "	"	4 "	4 "	"	"	Yes.	
90	16 years.	Single.	6 "	6 "	"	"	"	Linear osteotomy.
91	9 years.	"	4 "	3 "	"	"	"	Cat-gut dressing in wound.
92	4 "	Double.	4 "	4 "	"	"	"	" " "
93	6 "	Single.	5 "	4 "	"	"	"	" " "

The word "Perfect" used in the above report signifies a straight and useful foot, either toeing straight ahead or out, with normal functions fairly well preserved.
The words "Good" and "Fair" signify intoeing of foot, with congenital defect either in the ankle-joint, tibia, or muscles, but useful feet, walking on plantar surface.

To summarize: In 93 cases there were 161 operations performed, the average age being six and a half years, the average time of healing of the primary wound was four weeks, there were 117 cases of blood-clot organization, 4 catgut, and 19 failures in 140 cases.

The duration of after-treatment was ten months. On the fourth month after operating the feet were all straight. Out of 140 cases traced after one year, 10 cases were found relapsed, or partially so, from neglect. I will say that relapses, when they occur, take place during the first year after the operation as a general rule.

There were performed 10 linear osteotomies, 5 linear osteotomies with cuneiform resection from os calcis or cuboid, and 2 linear and cuneiform osteotomies, together with removal of both cuboid and scaphoid bones, making in all 17 osteotomies.

These results vary but little from those of Dr. Kaptyn's, of Abcande, Amsterdam, who has kindly furnished me with the statistics of 42 operations in 36 cases from Holland. In this series 34 were very good, 1 materially improved, fair results in 6, and 1 still under treatment. In other words, good results were obtained in 36 feet, with useful feet in all the others, except 1, which is unknown.

I find in looking over the literature on the subject, the following reported cases: Hoffe, 6; Schede, 20; Nunchen, 13; Oliva, 6; Postempski, 1; Schreiber, 11; Lowenstein, 2; Jones, 10; Roman, 3; Giordane, 1; Motta, 7; Volkman, 21; Kirmison and Rochard, 7; Ambrose, 1; Phillipson, 3; Levy, 9; Kaptyn, 42; Post, 2; Hamburg Medical, 1884, 12; Hingston, 4; the writer, 161—making in all 342. (This includes the cases of Professor Tilanus, Professor Korteweg, Dr. Konwer, Professor Sterson, Vander Hoeren, Dr. Dunnewold.)

All the cases at the time of reporting upon them were good results. In no case did I find a sensitive scar, a flat foot, or paralysis following the operation. No considerable atrophy of the muscles of the limb followed the operation in any case; the motion of the toes was preserved in nearly all the cases. In those with loss of flexion of toes, locomotion seemed to be as perfect.

One hundred and forty-four cases had already run the gauntlet of tenotomy and instrumental treatment, with a relapse in each case.

A CASE OF INFLAMMATORY RHEUMATISM—PURPURA—UNUSUAL TOLERANCE OF SODIUM SALICYLATE.[1]

By W. H. KATZENBACH, M.D.,
NEW YORK.

Mr. H——, twenty years of age, went to bed on the night of May 10th in good health. At three o'clock the following morning he was awakened by a chill and sore throat. Before daylight he had burning fever. He was visited by the writer at 10 A.M. At this time his temperature was 103.3° F., respiration 30, and pulse 120. He complained of intense headache, and pain in nearly every large joint. The fauces and pharynx were red and swollen, but the tonsils were not enlarged. Deglutition was difficult and painful. He was given acetanilid, gr. v., every three hours. At 4 P.M. the temperature was 100.3° F., pulse 114; at 9.30 P.M. temperature 99.6° F., pulse 100. He was then ordered salol, gr. x., every three hours.

May 12th all the large joints were involved; also the metacarpo-phalangeal, and the surfaces of the latter were of a bright-red color. Purpuric spots of small size (from a pin-head to a large pea) were thickly scattered over the arms, legs, and trunk. The most painful joints were the right knee and great toe, and the left ankle, and these, though not much swollen, were quite red; morphine became necessary. On the morning of this day the temperature was 100° F., and pulse 100. Salol was continued until noon of May 14th. The throat had been relieved, but the joints continued very painful. On this account salol was discontinued and sodium salicylate was ordered in doses of twenty grains every two hours, until rheumatism should be relieved, or the physiological action of the drug obtained; the dose to be increased if necessary. It was administered in capsules. May 14th he took 105 grains; May 15th, 240 grains; May 16th, 235 grains; May 17th 235 grains; May 18th, 165 grains; May 19th, 160 grains; May 20th, 140 grains; May 21st, 160 grains; May 22d, 140 grains; May 23d, 100 grains; May 24th, 30 grains.

During eleven days he took 1,710 grains, or more than three ounces, an average daily dose of 155½ grains. All the joints except the left elbow and shoulder yielded to this treatment, and the purpura rapidly disappeared. At no time was the stomach disturbed. The skin acted freely. Tinnitus and deafness were produced, but not to an annoying extent. Pain and stiffness persisting in the left shoulder and elbow, dithio-salicylate of soda was given in doses of gr. iij. every three or four hours, with good result, for several days. During convalescence, which progressed very favorably, the heart-sounds were weak, and a systolic murmur was heard over the body and apex of the organ. In June he went to the St. Lawrence.

On his return to the city in September, he had entirely regained flesh and strength. The heart-murmur had disappeared.

[1] Reported to the New York Clinical Society, October 24, 1890.

PARALDEHYDE ADDICTION.

By B. MATTISON, M.D.,
BROOKLYN, N. Y.

Dr. Hoyt's recent paper in the Record, on Paraldehyde, is of interest and value, but he is mistaken in saying "its continued administration has no tendency to produce a habit."

Paraldehydism is a *fact*—though rare. In Pepper's "System of Medicine," vol. v., p. 666, a well-marked case is cited; and, as this work may not be at command, an extract is given.

Patient, a young married woman, who had recovered from chloralism, took paraldehyde for insomnia, with success. "Notwithstanding its disagreeable and persistent ethereal odor, and the precautions taken by the physician, this lady managed to secure it, at first in small quantities, afterward in half-pound bottles, from a wholesale druggist, and took it in enormous amounts, with the result of producing aggravated nervous and psychical disturbances, corresponding to those produced by chloral, but without the disturbances of nutrition attendant upon the abuse of the latter drug. The patient remained well nourished, retained her appetite and digestion, and was free from disorders of the skin and the intense neuralgia which had been present during both periods of chloral abuse. She suffered, however, from a persistent binding headache, disturbances of accommodation, phosphène, and brow-pains. Under the influence of moderate doses, she was enabled to take part in social life with some of her old interest and vivacity. The brief intervals of abstinence which occasionally occurred were characterized by distressing indifference to her friends and surroundings, and by apathy and depression. At frequently recurring intervals the indulgence in excessive doses, constituting actual paraldehyde debauches, was followed at first by maniacal excitement of some hours' duration, later by profound comatose sleep lasting from one to three days. Upon the complete withdrawal of the drug this patient manifested the symptons produced by complete abstinence in the confirmed morphine habit,—yawning, anorexia, epigastric pains, vomiting, diarrhœa, absolute sleeplessness extending over several days, heart failure, collapse, colliquative sweating, and finally well-characterized delirium tremens. At the end of a week, under the influence of repeated small doses of codeine, sleep was secured, and within a month convalescence was complete."

Some time ago, the writer was asked to visit a medical man in the interior of the State, who had become addicted to paraldehyde. The case proved fatal, but whether from the drug or other disease, cannot now be stated.

In the early days of chloral, the same claim to non-ensnaring power was made, but that was soon proved baseless; and in a paper by the writer, on "Chloral Inebriety," read before the Kings County Medical Society, in 1879, several well-marked cases of chloralism were noted. Happily they are becoming more and more rare, due to later soporifics, but doubtless we shall see the same pernicious result from rival hypnotic claimants. Already, sulphonalism is here, and chloralamid—the newest and best—will probahly not be long in joining the procession.

Addresses made before the New York Academy of Medicine.

THE ADDRESS OF THE PRESIDENT,[1]

ALFRED L. LOOMIS, M.D.

FELLOWS OF THE NEW YORK ACADEMY OF MEDICINE, LADIES, AND GENTLEMEN: I count myself most fortunate that it is my privilege to speak to you words of welcome in our new home. The only language which my heart prompts me to utter to-night is the language of congratulation, congratulations for the past, the present, and the future of our Academy.

Forty-four years ago representative men in different departments of medicine, actuated by a spirit of devotion to a high scientific purpose, founded this Academy. Interwoven with its early history are the names of John Stearns and John N. Francis, Alexander Stevens and Alexander Hosack, John W. Draper and Joseph M. Smith, Valentine Mott and Francis Delafield, and a long list of others whose name and medical achievements made honorable the medical profession of their day.

With such founders the membership of the Academy soon included most of the active medical workers in the city, and became the strongest and one of the most influential medical organizations in the State. From year to year it has grown in professional esteem and public confidence, and its advancing history has been stamped by the life and labors of such noble ones as Willard Parker, Alfred C. Post, James Anderson, Alonzo Clark, Edmond R. Peaslee, Austin Flint, William H. Van Buren, James R. Wood, Cornelius R. Agnew, and a host of less prominent, but noble, self-sacrificing spirits around whose memories we delight to linger.

Time will not permit me at this hour to even mention the many important papers that have been read and discussed, and the large amount of original work which has become a part of the scientific history of this Academy. As one reviews the scientific work of those earlier years, he congratulates himself that he is a fellow of such a fellowship. An organization which has given so much to the profession as ours has a past for each one of us to be proud of, and I may well congratulate you this evening on the past of the New York Academy of Medicine. We step to-night into a present full of promise.

In my inaugural address, less than two years ago, I stated that in order that our Academy might become the centre of the scientific activities of the entire profession of this city it must have a suitable home, a building that should furnish accommodations for a large and well-selected library, with reading-rooms and commodious meeting-rooms for all our medical societies. Such a building is ours to-night, more elegant, commodious, and better suited to our wants and work than the most sanguine could have hoped for two years ago.

With a library capacity for two hundred thousand volumes, and a well-selected library of fifty thousand volumes, supplemented by the largest and best collection of journals to be found in this country, we may rightfully claim that we are in some degree meeting the highest requirements of scientific medicine. The influence which such a library will have, not only on the intellectual status and culture of the profession, but upon its moral tone, cannot be estimated, for there is an atmosphere about a large and well-selected library which does not favor the growth of a mean, money-calculating spirit; it conduces to broadness, tolerance, and a love of the higher and nobler attributes of man.

Our membership has reached nearly seven hundred, and includes most of the active workers in our profession in this city, and many in the State. Every specialty in medicine is represented by those who have become distinguished in their chosen lines of work. There are now established and well-organized sections in all the special departments of medicine and surgery, so that each fellow may find a place with congenial workers for making public the results of his own observations and experiments, under the sifting criticism of experts, and thus learn what may have been done by others, in the way of support, or in opposition to his own work. The combined scientific labors of our general meetings and sections is to a large degree leading and guiding the medical thought and research not only of our own country, but its influence is being felt in the medical councils of Europe.

We are also exerting an increasing influence on public thought and action. We are becoming a power in this city and State which is being more and more felt in the legislative and economic work of our commonwealth. The public health and safety of our citizens is being more and more committed to our hands, with the conviction that, by wise councils and practical methods, we shall protect it from the ravages of disease by an ever-broadening and more perfect sanitary science.

Our fellow-citizens, in response to our appeals made to them during the past two years, have shown by their sympathy and liberal donations that they are recognizing more and more the importance of our work and its influence upon the general weal. Let us act wisely, energetically, and unitedly, and we may be assured that in the near future we shall be able to turn more largely the influence of the accumulated wealth of this great metropolis into channels for the support and encouragement of scientific medicine. Our profession was never so full of promise as at the present—never before were there so many strong men in its front ranks as now, never were there so many cultured and brilliant minds entering it as to day. If this great and daily increasing power can be centralized, as is possible, within these walls, its influence on the social, domestic, business, and religious life of our city cannot be estimated; already the better minds in all departments of science are turning to us for help and inspiration. There is no longer a strife of sects or creed, but a struggle for the supremacy of intellectual power and broad culture over weakness and charlatanism. There is no place in the broad field of scientific medical inquiry for the would-be medical man who talks of the potential power of infinitesimal abstractions, and the so-called scholastic illusions. We are living in, and are part of an age of facts, not fancies, work, not theories. This epoch in medicine is indeed more brilliant and eventful than any which has preceded it, and the prospectus grows constantly more encouraging and richer in possibilities. The effect of the many enthusiastic workers who to-day are struggling for truth in medicine must produce a general advance, notwithstanding as Dr. John W. Draper once said, "there has been through all the ages constantly hovering about honest workers in our science a host of impostors and quacks, who will continue to thrive so long as there are weak-minded and shallow men to be deluded and vain and silly women to believe."

I congratulate you, then, that with the most advanced workers in every department of scientific medicine gathered in our fellowship, we meet to-night about our own hearth-stone in full possession of all those faculties which are needed to render our work most efficient and stimulate us to still higher achievement in the future, so that

[1] Made November 20, 1890, see p. 613.

the work done in these halls shall have a forming and crystallizing power on the medical literature of our whole country.

The days of doubt and anxiety are past, success has ceased to be a question, the auspicious present marks the beginning of a new and broader career for our Academy. It is here, in the centre of this great city, to do its part in stimulating its intellectual and moral forces. With increasing opportunities come deeper obligations. Our future must not be gauged by past successes or present advances. We are under obligations to the past, but under bonds to the future. As we in turn pass this trust to our successors, to those who in the future are to be the exponents of the lofty mission to which this building is dedicated this evening, it must not have suffered in our hands, but have grown and broadened under the impulse of true enthusiasm and faithful work. Yesterday we read the history of the past, to-day we make history for the future, and whether he will or no, every fellow in our number must leave his mark, be it little or much, in the records of this Academy. Let us be inspired, then, with the thought that our fellowship shall become a power in raising our profession to the high place which the future shall assign to it, centralizing its influence, and elevating it socially and intellectually to a position which was not hoped for in the past, or attained to in the present.

Our future must be, and will be, interwoven with the many and rapid transformations that are to take place in every department of science, and our relations must become more and more intimate with the great public, who are fast realizing that the first mission of our labors is the prevention of disease. The career of the physician of the future will be nobler and pleasanter, because he will have less of ignorance and prejudice to combat, but he will require a higher culture than his representative of to-day. Here in this library and in these halls, both the medical profession and the philanthropist will find that inspiration which shall give birth to a greater devotion to the alleviation of human suffering and a better realization of our duty in the elevation of the masses to a higher civilization. We must never look backward, but always forward. Provided with the machinery of wisdom we have inherited, but not wise in our own conceits, let us make this building the great workshop, where the fires of scientific enthusiasm and persistent labor shall smelt from out the ores of our daily experience the pure metal of truth, that, cast in the moulds of patient thought and polished by the sharp emery of keen and kindly criticism, may some day furnish to generations yet unborn armor and weapons with which they will advance victorious over all the forces of death; save three score years and ten.

So shall the congratulations which we utter to-night re-echo from these walls when other voices recall this day. Join with me, then, in thanksgiving to the Great Physician for what has been accomplished, and in this invocation, that these walls may not crumble or cease to shelter faithful, earnest, Christian men, until suffering humanity is free from its bondage to lust and excess, and is victorious in its struggle against the invisible arrows of disease.

THE NEW YORK ACADEMY OF MEDICINE.[1]

By E. L. KEYES, M.D.,

NEW YORK.

Mr. President, Fellows of the Academy, Gentlemen, and Ladies: If there are sermons in stones—then an address has already been delivered to you to-night on entering these walls, in a strain of greater dignity than any to which I may aspire. The fact of the existence of this building at all in the graceful form in which you see it, devoted, as it is to be, to philanthropic and humanitarian ends—this in itself is a whole volume, a canticle of praise to the energy of its promoters, and a pean of gratitude to the liberality of those whose material bounty has made its erection a possibility.

Those of us who are to possess this well-equipped arena for scientific effort, this nucleus from which shall radiate ever-broadening lines of medical thought, have lived to see a good day, and to enter the promised land toward which our earnest expectancy has led us through many a long hour and weary year; and in contemplation of the work accomplished, in that grateful lassitude which accompanies the consummation of a successful effort, we might perhaps with better grace muffle our ineffective voices and allow the stones to discourse to you in the eloquence of their majestic silence.

Yet this may not be. Some articulate words are called for, and if I, who have been honored by being made the mouth-piece of my fellow academicians, can, as an impersonality, render to you for them any words in harmony with the occasion, the accomplishment of the pleasant duty will be its fitting reward.

An academy is an institution sanctioned by illustrious precedent in that group of devoted followers who, in the groves of the suburb of Athens bearing this name, in the year 348 before Christ, clustered around Plato as he "taught the truth;" and to teach the truth after investigation has been the proper function of the academy ever since that day. The various institutions of learning which in different scientific fields have borne this name have made for themselves everlasting renown and have established a criterion by which, if our little body of earnest workers is to be judged, it behooves us to spare no effort that our results may be deemed worthy to be enrolled upon the same scroll of honor.

The age in which we live is distinguished notably along three prominent lines: by material progress, by the broad dispensation of rational charity, and by the far-reaching effectiveness of scientific study in its practical application to the needs of mankind.

This building in which we are assembled represents a crystallization of the essence of all these lines. The material progress is represented by the graceful outlines of the building and its commodious internal structure, which the architect has ably conceived and the workmen faithfully executed. The very existence of the building is the acme of a broad charity, since it stands for the accumulation of many hard-earned dollars; that this institution may live and become effective, not solely for those who make immediate use of it, but that the fruit of their labors may spread abroad through the land for the benefit alike of all who are in need; and it stands for science, for it is the rostrum from which science speaks; it is the arena in which science contends; it is the soil in which are implanted the roots of that tree of medical knowledge, in the branches of which the investigator may find the bud, the flower, the ripening fruit of past experience; it is the fountain from which shall emanate rivers of refreshing sweetness to cool and succor the parched sufferer along the dusty highways of disease.

And what to say of the academic body itself, of which this edifice is the outward and visible sign? Conceived, as its historians have often narrated, conceived in the spirit of good-fellowship and brotherly kindness on the evening of November 18, 1846, at a dinner of the Society for the Relief of Widows and Orphans of Medical Men, it took shape December 12, 1846, with the sanction of about two hundred and fifty physicians, under the immediate direction of Alexander H. Stevens, assisted by Parker, Watson, Mott, Isaac Wood, Smith, and others, was born on January 6, 1847, and baptized by legislative enactment of incorporation June 23, 1851.

The motive for its formation was stated by its founders to be the recognition of a "lack of harmony and concentration of effort for scientific purposes in the profession," and a desire to elevate a barrier against quackery, which, at that time, it appears, had reared a more formidable front than before, or, possibly, since that day.

[1] Being an address delivered on the occasion of the opening of the building, November 20, 1890.

At its birth its future functions were defined to be: 1, The cultivation of the science of medicine; 2, the advancement of the character and honor of the profession; 3, the elevation of the standard of medical education; 4, the promotion of the public health.

The Academy is therefore now in its fifth decade. It has lived through its babyhood and period of riotous youth, homeless at first, wandering about seeking shelter, and having no roof to call its own, until well along in its twenty-seventh year, when, on December 24, 1874, it secured, largely through the energy of Dr. S. S. Purple, a permanent abiding-place at 12 West Thirty-first Street.

There might almost be said of the Academy what has been tersely written of the life of man, dividing it into decades:

"At ten, a child,
At twenty, wild,
At thirty, sound—if ever—
At forty, wise,
At fifty, rich,
At sixty, good—or never,"

except that the Academy has been from the beginning good, a quality which may not be affirmed with equal confidence of all men.

For surely at ten the Academy was a child, and a wanderer in the streets; at twenty we may be pardoned for declining to inquire into her follies; at thirty she was certainly sound—indeed there never has been a question of the health of the organization; at forty who shall deny that she was wise, for it was in the early forties that the necessity for expansion was felt, and that spirit generated which has culminated in this our forty-fourth year in the completion of this modern home, in which the treasures of our library will be adequately protected from fire, and wherein ample provision has been made for the convenience of present work and future expansion. And in signalling this triumph of the Academy's fifth decade, it is impossible not to pause and pay tribute to our President, Dr. Loomis, whose energy, zeal, and ability have contributed so largely toward the accomplishment of the result.

It is hardly necessary to carry the simile further. At fifty the Academy cannot fail to be rich. She is rich now in the love of her children, in the respect in which she is held by the community at large; she is rich in her library, and in the accummulation of good work by her members. This is the material wealth of a scientific body, and of this she has already a fund and a steadily increasing store.

At sixty the Academy becomes immortal, and will remain until the consummation of time a pillar of beauty and strength, an integral part in the grand temple of science which is being reared by zealous and loving hands throughout the length and breadth of the entire earth.

And how has the Academy fulfilled the aspirations of her founders? Surely the end is not yet, and more remains to do, but in the four directions which were defined at her origin as her special lines of effort, her advance has certainly been satisfactory. The science of medicine has been cultivated; the division of labor into section work has brought together spirits scientifically akin, and the quality of the material presented to, and digested by, these sections is of a high order and of steadily increasing excellence. The character and honor of the profession have been sustained; struggling factions have been dominated by wise counsels, and threatened rupture averted by the exhibition of a broad spirit of professional charity, which has helped to steady and elevate the quality of the professional gentleman, without, as well as within, the academic circle.

The weight of the Academy has always been thrown into the scale to help to raise the standard of medical education, both by the personal effort of the fellows, many of whom have occupied high positions as instructors in the various institutions of learning, and in efforts to help shape legislation toward the accomplishment of the same result upon a large scale.

That the promotion of the public health has been an object of academic solicitude is witnessed by the present existence of our efficient City Board of Health, which was conceived and formed in the bosom of this Academy in the interest of the citizens of New York.

The workers in the academic field have not been very numerous. The present roll, the largest ever possessed, numbers seven hundred; but in that number may be found the names of nearly every living physician of recognized eminence in the city and immediate neighborhood; and it is difficult to mention any of the illustrious dead of our profession whose names will not be found written upon the roll of the Academy, as well as imprinted upon the memory and in the hearts of those who loved them for their kindliness during life. How shall I mention any without slighting more: Francis, Mott, Stevens, Parker, with his genial smile; Watson, Post, Peaslee, Flint, the good physician, the crystallization of benevolence; Rogers, Bumstead, Buck, Wood, the man of action; Delafield, Clark, Dalton, Anderson, Agnew, the Christian gentleman; Hamilton, Sims, Van Buren, the man of judgment, the man of dignity, a very man, a prince among his peers; but why prolong the list? the good men have been ours, the good men are ours, and their work, the best of it, is fostered by this Academy and turned to good account.

And yet the high success of the few is not the measure of the usefulness of the Academy. These illustrious ones would have glittered without the Academy. Their lustre is shed back and illumines the whole body in which they mingled, and multiplies there for the good of the community at large.

We in our scientific struggle and effort are much like children. The vastness of the field belittles our personality. The pretentious few who arrogate to themselves a personal superiority are more than liable to be left behind by the patient seeker after truth whose path is lightened by the glowing rays of human kindness. Children we are indeed!

"We go forth like children in the morning,
Scattering, to spend the summer hours;
One, his brow with laurel wreaths adorning,
One to saunter 'mid a grove of flowers;

"One to lose his way and wander, straying,
'Till the twilight, frightened and alone;
One, it may be, wearied with his playing,
Wending home his footsteps e'er the noon.

"But, whatever fate to us is given,
All, when day is done, again shall meet,
And at nightfall, 'neath the stars of heaven,
Shall be gathered at our Father's feet."

To obtain an idea of the relative standing of this Academy, we must compare it with other analogous institutions. The Imperial Academy of Science in Vienna, and that of France, are scientific, not medical, bodies. There is a Royal Academy of Medicine in Belgium, one in Italy, one in Ireland; there is an American Academy of Medicine, one in Kansas, and one in Detroit, but the moderate scope and importance of these various academies relieve them from comparison. Germany is justly proud of her two distinguished associations in Berlin—the Medical Society under the presidency of Virchow, and the Society for Internal Medicine under the leadership of Lyden. Illustrious names glitter in each of these constellations, but neither has a building of its own yet, although the Medical Society is now erecting one in company with the Berlin Surgical Society. The library of the Medical Society is about two-thirds the size of our library, while that of the Society for Internal Medicine is insignificant. The great Austrian medical body, the Royal Imperial Society of Physicians, in Vienna, justly renowned for the brilliancy of its work and the standing of its members, has no building of its own, and a library of some-

thing over eleven thousand volumes, not one-third the size of ours, although the society is ten years older. Of the Surgical Society of Paris, and other foreign medical associations, it may be said that, whatever their distinction, they are not sufficiently analogous bodies to be fairly compared with our Academy.

Two foreign institutions, however, fulfil the conditions: The Academy of Medicine in Paris, and the Royal Medical and Chirurgical Society of London, upon the general plan of which our organization was outlined.

As between these two and ourselves, at this date, in evidences of material prosperity at least, our Academy holds its own. As to the scientific standing of the members, I shall not draw comparisons. It is enough to say that each of them contains the flower of the medical science and art in the districts in which they are respectively situated. In this country there is no other Academy (except the relatively unimportant ones I have mentioned), although there are many notable Medical and Surgical Societies; but the extent of our land, and the wide-spread distribution of its talent, make it probable that others will shortly arise.

Comparing, then, some of the main points in the three that I have selected, I may say that each has a building of its own—that of the French Academy being a temporary one. They have the funds, and propose constructing a suitable home in the near future.

Royal Medical Chirurgical Society, London, founded 1805, membership seven hundred, seating capacity of largest hall three hundred, area of hall 40 by 50 feet, foundation area of building 50 by 200 feet.

Academy of Medicine, Paris, founded 1820, membership one hundred and ten, seating capacity of largest hall ninety-two, area of hall small, foundation area of building small.

Academy of Medicine, New York, founded 1847, membership seven hundred, seating capacity of largest hall three hundred and fifty, plus extra opened-up space two hundred and fifty, equals six hundred; area of hall 42 by 57 feet, and two extra smaller rooms that may be opened into it, foundation area of building 75 by 100 feet.

All have libraries, but on this point we may seek a wider field for comparison. Our library, which is, I believe, the youngest on the list, and which always gratefully recalls the names of its chief munificent donors, Purple, Dubois, Bumstead, Stone, Jacoby, and many others whom time forbids me to detail, was founded by donations in 1877, never bought a book until 1879, eleven years ago, yet now, safely housed in a fire-proof home, we are proud in possessing the third place numerically among the medical libraries of America, and the fourth place, as far as I can learn, among the purely medical libraries of the world. In this country the library of the Surgeon-General's office in Washington, founded in 1865, is the largest, that of the College of Physicians in Philadelphia, more than one hundred years old, the second.

Comparative Table of Medical Libraries.

Name of Library.	Date.	Volumes.	Journals.	Current Journals.	Pamphlets.
Academy of Medicine, Paris.	1820	130,000	18,000	390	
Surgeon-General's Office, Washington	1865	97,886	33,173	over 700	144,887
College of Physicians, Philadelphia	1789	45,000	.....	400	
Academy of Medicine, New York	1847	40,000	.....	400	
Medical and Chirurgical Society, London	1805	36,000	.....	150	
Medical Society, Berlin	1839	about 30,000			
Royal College of Surgeons, Dublin	....	about 25,000			
Medical Library Association, Boston	....	19,365	.....	381	19,100
New York Hospital Library, New York	....	18,386	.....	109	No record kept.
Royal Imperial Society of Physicians, Vienna	....	11,069	.....	132	
Aberdeen Medical Society, Scotland	....	6,000			

So stands our Academy, and such she is when compared with other analogous institutions in other parts of the world. Considering her age she need not be ashamed. To fulfil her destiny and consummate her function requires only a continuance of the zeal which has attended her development from the first, and a common impulse among her members to work for work's sake.

Here in this hall, now radiant with the gracious smiles of approving friends, must be fought out many a desperate scientific battle. Clad in the armor of scientific method and wielding the sword of personal experiment and investigation, contending individuals and contending factions shall battle for the supremacy of their ideas, until these walls shall resound with the din of conflict; and from the blows given and taken with such weapons upon such honest armor there shall scintillate and radiate sparks and flashes of truth, living fire, to be added to, and heaped upon, the burning flame that glows forever upon that common altar of Science at which we all worship, a flame to act as a beacon of safety upon the hilltop to encourage those for whom the battle is fought—the patient, suffering victims of disease—and a flame which, within this academic body, shall serve as a cloud of smoke by day and a pillar of fire by night to guide and guard the honest investigator in his never-ending endeavor to teach the Truth.

OUR LIBRARY.[1]

By A. JACOBI, M.D.,
NEW YORK.

Mr. President, Ladies, and Gentlemen: A circular, published by a special committee of this Academy in January, 1888, contained the statement that the New York Academy of Medicine was an incorporated institution, then more than forty years old; that its object was the cultivation of medical science and art; and that this aim was, among other means, reached by maintaining reading-rooms which furnished nearly all the medical journals of the world, and by collecting a library which was—and is to-day—free to the fellows of the Academy, to the whole medical profession indiscriminately, and to the public at large. Our library was steadily increasing, the capacity of its shelves strained to the utmost, the building not fire-proof, and our accumulated treasures were in constant danger. For these reasons we appealed to both the profession and the public for aid in procuring for our meetings and our books a fire-proof building large enough to accommodate two hundred and fifty thousand volumes, spacious enough to afford quarters to all the scientific societies of the city, stately enough to worthily represent the medical profession of the metropolis, and able to testify both to the unity and earnestness of that profession and the sympathy of the city, which at the same time is the largest in size and the greatest commercial power of the continent.

This library of the Academy of Medicine had a slow but steady growth. Thirty-three years ago, when I was admitted to membership, in the presence of the great and good men who then were the guiding stars of the profession, Alexander Stephens, Valentine Mott, Horace Greer, Gurdon Buck, Edward Peaslee, Edward Delafield, John Francis, John Watson, Ernst Krackowizer, there was no library at all, not even a medical reading room in the city. It took many years before the Journal Association was organized, which furnished, in a room fitted up for the purpose in 64 Madison Avenue, the current medical journals. Other years elapsed, until an amalgamation of the Journal Association and the Academy of Medicine, then in 12 West Thirty-first Street, was brought about. The accumulation of the annual volumes, and a valuable collection of American journals and other books presented by two fellows, were the first stock of the library. The journals were paid for by an appropriation of the Academy, which being small in the beginning, for many years

[1] Being an address delivered before the New York Academy of Medicine on the occasion of the opening, November 20, 1890.

amounted to from three to four thousand dollars annually. More could not be spared. Thus it was that we could not purchase new books. Occasionally a sum was raised by voluntary contributions for the purpose of buying the collection of a deceased member, certain publishers would present us with their publications, authors donate copies of their writings, fellows and others give old and new books, and men interested in special branches of literature furnish a shelfful of special works. The largest and most valuable addition of the kind was bequeathed to us by the great specialist, Dr. Freeman I. Bumstead. That was our library. Thus it grew slowly, but steadily. In the course of years our stock of journals became more and more valuable, but what we wanted was a regular supply of new books, for which we had no funds at all.

On October 2, 1889, when I had the honor of addressing you at the laying of the corner-stone of this edifice, I could refer to the fact that at last we had, for the purchase of new books, a special library fund of ten thousand dollars, half of which was a memorial gift. For the same purpose and in the same spirit the widow of a deceased fellow and vice-president has since presented another special fund of ten thousand dollars, so that one-fifth of the sum required for the perpetual endowment of the library is now secured. We are thus approaching the time when New York City will possess a medical library fully adapted to meet its ends. What are they? A large library, besides being the proof of existing culture and accumulated intellectual labor, fulfils its destiny by giving information. Here the medical man with scanty means will find his text-books and monographs to aid him in unravelling the obscurities of a difficult case on hand. He with an ample library of his own will come here to consult rare books, old journals, expensive works. Here all the journals of the world may be consulted from day to day; here those who are engaged in literary pursuits find their historical records. But what a library is most successful in is the inculcation in a great many of the habits of study and research. In that result the public is very much interested. Its safety and dignity requires cultured and erudite physicians.

In the same degree that the ethical and intellectual standard of society is raised the community will demand a higher standard of education and culture on the part of its liberal professions, among them the medical. A profession is called liberal in this, that it is generous, charitable, and high-minded; in this, that it liberates its members from ignorance and mental and moral hebetude. But in reality the medical profession of the country was mostly liberal in this, that it admitted to its ranks uneducated persons of all colors, sexes, ages, and previous conditions of servitude and illiteracy. Instead of being a truly liberal profession, it has merely been too liberal. In this tendency it has been encouraged, or rather this inferior standard has been forced upon the medical profession, by the public. He who requires manners in his corn-cutter, and demands gentleness in his tailor, would often not object to selecting for his family physician and public hygienist a medical adviser with the orthography of a village school, the touch of the corner grocer, and the mental level of a soap pedler.

From this depth the profession has risen spontaneously by study and its indigenous moral development. Not all of you know, however, to what extent you are under obligation to the medical profession. Fifteen years of incessant agitation were required to finally pass the bill for the establishment of a State Board of Medical Examiners. If in future you will be protected against practitioners who have nothing to show besides their diploma, granted by a college—no matter of high or low standing—if the license to practise on you, your parents and children will be made dependent on a second examination, you owe that blessing to the exertions of the medical profession. You might have made the result more striking. If the public had understood its interest you would have worked with us, in behalf of making the State Board one, and not three.

Another achievement of the profession which concerns you as much as it does us, is the final passing of the bill requiring some degree of general education on the part of every medical student who expects to obtain his medical diploma. Thus a step is made in the direction of rendering the profession more liberal, more cultured, more effective, more fit to take charge of the most sacred offices that can fall to the lot of men. For the holiest and greatest of the objects of human study and care is man. That is so much a part of the creed of the medical profession that you can imagine the painful and contemptuous surprise at our learning that a medical man, in a public position, but fortunately not one of us, worked all winter to have the law repealed.

Fortunately not one of us. For from its very first days this Academy of Medicine had the elevation of the standard of medical education and culture inscribed on its banner. That object has become such a settled axiom in the mind of every fellow, that, years ago, it was no longer considered necessary to retain it in just as many words among the written laws. In this tendency you can sustain the efforts of the profession. Insist upon this, that your physician be a gentleman and a scientist, and do something for that purpose yourself. For the State does not contribute to that end. The State is only society organized for certain purposes of co-operation and protection. But medical education, though ever so indispensable for the pursuit of health and happiness, and the training of erudite and liberal physicians, has not been recognized among them. But you who do not say to the hungry, the cold, and the naked, "Be ye fed, be ye warmed, be ye clothed," without helping them to food, fire, or clothing, must not expect a profession that always works in the private and public interest of yourself and all those dear to you and yours to be at once learned, erudite, and wise, and refuse aid in its efforts to perfect itself and benefit the commonwealth, aid by pecuniary support, by your social influence, and also some occasional gentle political pressure on our representatives in Albany.

Our greatest drawback has long been that we had no large class of learned medical men, such as study for study's sake, irrespective of pecuniary gain. Our profession has always consisted of practitioners. The necessities of life have acted upon the medical fraternity as on the community at large, which knew but exceptionally of art, of music, of philosophical refinement as long as the country was still wrestling with the difficulties of the soil, the insufficiency of commerce, and the hamperings of poverty. Thus the immense majority of the medical men of the country gloried in being practical, and that only. That there were architects who never laid a brick, mathematicians who never triangled a mountain, astronomers who never sailed a ship; that no cathedral, no coast survey, no ocean travel could exist without them, that indeed there is no rational practice without an underlying theory was not considered. The very strongholds of medicine, histology, physiology, the fields of experimental labor and microscopical research, all those branches which you cannot immediately exchange for cash, have been neglected among us until lately. Like special laboratories, it is but a short time since great medical libraries have sprung up in Washington, Philadelphia, Boston, and New York. The sooner we admit that we have been far behind Europe in that respect, the better for our scientific future. Indeed, the intellectual maturity of a nation can best be measured by the amount of its original and unpaid research. Europe knows that thoroughly. The intellectual atmosphere of Paris depends greatly on its universities. The universities of Germany, with their independent workers and thinkers, have always been the pride of the nation, even in the distress of national poverty and political humiliation. In all of them the principal means of information, through centuries, have been their large libraries. And it will be our library round

which the scientific interests of the profession will largely centre; but not of the profession only, for the Academy, as it opens its doors to whosoever will attend, without regard to membership, has always held that in order to increase the number of its beneficiaries it must make its library free. This is so well understood and so highly appreciated that the city has released the taxes on its building. A medical library contains of necessity many works and journals of interest to professional men besides medical. The lawyer and physician have many studies in common. There are in the city two societies for the special study of forensic medicine and medical jurisprudence, both of which can be better studied in a medical than a legal collection. Nor is a medical library, such as we have and mean to increase, a forbidden fruit to the intelligent, well-informed non-professional man or woman. Fortunately there are a great many good popular works, besides those compiled for an ephemeral market, which treat of physiology, hygiene, statistics, and other topics of universal interest.

Therefore we hold that the profession has a right to look to the public for appreciation and aid. We are not situated as they are in Europe, where educational institutes —as they are controlled—are also supported by the government. For the democratic spirit of our social and political institutions is opposed to centralization of that kind, and the generosity of the citizens has often been appealed to, and hardly ever in vain. There was a time when the church, centralizing all information, beneficence, and social and political influence, was the only legatee of the rich and benevolent. Now there are a hundred opportunities for liberal outlay. To select the proper ones is an art. I suppose it is a great achievement, which only a few select ones can attain, to make money; but it is a greater art to spend it both generously and profitably in the interest of science and charity. The greatest of all charities, however, is to benefit mankind by levelling the road of science. It is not millions we want. A hundred thousand dollars will clear this temple of sciences from debt, and swell our library fund to a sufficient sum, the interest of which will forever supply us with everything medical and scientific that will appear in any country. Well-to-do ladies and gentleman will, I hope, not leave this building without making up their minds to contribute their share to the extinction of a debt which the community owes to the profession and to itself through improved educational facilities. "Let your light so shine before men, that they may see your good works."

In conclusion, my friends of the profession may permit an additional word or two on the subject of the library, which is so dear to all of us that it was selected as the subject of a special address to-night. In one of its retired nooks I was sitting a few days ago, contemplating its past and future. I sat wondering how long it will take, and whether any of us older men will see the day, when America, after having given the political world the guiding example of a stationary popular government both conservative and perfectible, will lead the world of science, as it does that of politics, and, we hope of healthful social development; wondering, also, how much this head centre of the medical profession and this ever-growing library will contribute to that consummation, which you can hasten by industrious, honorable, and modest work—but by work only.

This library of yours has started from small beginnings, like medicine itself. It comprehends the labors of thousands of workers assiduously employed through long centuries. That one of them could be missed is difficult to say. For the co-operation of the many, the gradual development of ideas, the slow changes in experience and doctrines are of as much importance as the revolutionary and epoch-making labors of the greatest. For no single man can stand alone, a law to himself and others. Even genius is the child of its time. No Washington or Lincoln, no Hippocrates or Aristotle, no Virchow or Pasteur, or even Koch, none of these immortal ones is a world by himself, and an isolated, self-lit sun, illuminating and warming the universe. Every one has been raised on the shoulders of his predecessors. By that knowledge it is that while hope and energy are aroused, patience is taught to the individual and the profession. For while life is short, science and art are unlimited and eternal. And the comparison of what you furnish yourself with the existing mass of accumulated knowledge, inculcates modesty and enhances zealousness. Thus good citizens are made and model scientists. Besides, what to the pupil the information gathered from the lips of his master, that is for you the collective bequests of all centuries as represented in your library. Thus an intellectual kinship is formed between you the living, and the spirit of all eras of history. That is what the study of the history of medicine teaches us which we have so long neglected.

Pondering over the shelves you behold abstract scientific treatises, works on practical therapeutics, and books on art and appliances—all of them composing our beloved "medicine." Remove the theoretical works on anatomy, histology, and embryology, experimental physiology, physics, and chemistry—what remains? The wreck of the edifice, the foundation of which is torn away.

Look at the shelves holding special literature. There the specialist will comprehend that his doctrine and art are but a minimal trifle when compared with the surrounding wealth, and that the basis and link of all specialities is general medicine. Every one of them evolved from a minute bud of the great tree, and but few have ever been able to grow up with anything like independence. Thus medical science and art is shown to be an organism of slow, consistent, historical growth. Even the very excrescences—call them fallacies, superstitions, theories, schools, or sects—do not disturb the organic economy. In accordance with this, your very library, the representative and exponent of all medicine, is no longer a mere collection, but a vitalized organism.

That is why there is an atmosphere of solemnity in your large library; for you are standing in the presence of the spirit and soul of all previous ages, each evolving from and connected with its neighbor. That is why a library is to the scientists what the church is to the pious; or a museum of a hundred gems, like that which a generous fellow presented to our reception-room, to the artist No consideration of lucre invites you there. While nourishing your minds, you disconnect yourself from the embarrassments of trivial employment, and deliver yourselves from the merely terrestrial. In that way idealism is nurtured that no feeling and thinking man is to be without; idealism, without which no nation can expect to live. When she lost it, even Hellas perished, though she had given birth to Solon, Pericles, Aristides, and Sophocles.

Let me suggest this reflection as a platform, my young colleagues. It is not a dream, but a reality, if you will make it so. By so doing, not only will you elevate your august science and the noblest of all callings, but you will also remain in constant and indissoluble intellectual and moral contact with the most cultured elements of society. If you do, this evening, which is both an anniversary and an inauguration, will prove a blessing for all future to both the profession and the community. Look upon this edifice not merely as a new and commodious building, but as the visible portal into a new epoch. If you do so, you will consecrate this solemn occasion as the Fourth of July of American Medicine.

ADDRESS BY FORDYCE BARKER, M.D.

MR. PRESIDENT AND FELLOWS OF THE ACADEMY: I must detain you only a few moments on this joyous occasion, to express my warm congratulations. It is now nearly twelve years since I had the honor to first address officially the Academy, when I expressed the hope that the walls of our then home would soon be extended for our rapidly growing library. Within a few months after, by the spontaneous munificent gift of one whose name

must ever be gloriously perpetuated and now honors one of the rooms of the present building, our hall was greatly and beautifully enlarged, and met all our wants for several years, until it became apparent that we must have more room for our books and the other requirements of the Academy. To most of us this probably seemed a dim perspective in the future. Who could have anticipated so speedy and noble a result as we now see? We can now say appropriately, in a paraphase of the words which Shakespeare puts in the mouth of Gloster, in Richard III., "Now is the winter of our discontent made glorious summer," by these our sons of York, and in grateful remembrance of many of our liberal benefactors, I must add, the daughters of York. I must congratulate the Academy on its office-bearers, all of whom have worked most zealously to bring about this happy result, and especially congratulate it on its wise election of the present incumbent of the presidential chair, and his immediate predecessor, both of whom have labored together with untiring earnestness, great wisdom and tact, and fortunately both of whom possess means which they have liberally contributed to this end. I do not hesitate to express the opinion that without the combined efforts of these two gentlemen the glorious consummation which has now arrived would have been long delayed. We have now a central and spacious home in which the profession will find it pleasant and profitable to work together for mutual improvement and the public good, in the advancement of science, the promulgation of new truths, and the development of progressive skill in our art. And I will add the cultivation of those social graces which bind us in the friendly ties of a brotherhood, a noble and useful profession. We can assure the profession that they will be welcome to a library which contains the accumulated treasures of the past on every topic pertaining to medical science, and the current and periodical literature of the day, so necessary for all who would keep abreast with the present rapid advance of science. We to-night begin a new era of the New York Academy of Medicine. Who will venture to cast a horoscope of its grand future? New York, the commercial metropolis of the country, should be the metropolis of the medical thought, the medical literature, the medical teaching of the country, and to the Academy of Medicine belongs this great mission to make it so. One thing we should all remember, "that above," to quote from Webster, there is room for an additional hundred thousand volumes. Ever bearing in mind that "Concordia parvæ res crescunt; discordia maximæ dilabuntur," and the future we seek for this Academy is certain to be gained.

Clinical Department.

A CASE OF OCCLUSION OF STENO'S DUCTS.

By BRADFORD C. LOVELAND, M.D.,

CLIFTON SPRINGS, N. Y.

MRS. F——, a woman of middle age, was sent to my office about the middle of March, 1889.

She complained of a dry mouth, and said that she had been troubled more or less with it since she had diphtheria twelve or thirteen years ago.

Her mouth was indeed dry, for, as I looked into it there seemed only a little sticky mucus about the teeth and under the tongue. And when I took hold of her lip and cheek to look for the openings of Steno's ducts, the mucous membrane wrinkled like dry tissue-paper does when stretched.

I could not at first see the openings of the ducts, and could not press any saliva out. But when she attempted to eat the parotid glands would swell up so as to make her look like a patient with the mumps.

After careful examination I found where the ducts had opened, and could only think of two ways to relieve the condition: first, to introduce a fine probe if possible; if I failed in that, to make an opening into the duct further back.

I tried a No. 1 Bowman probe, and after some difficulty succeeded in getting it in through the portion which seemed closed from strictures, one after another, for nearly three-quarters of an inch. Next day I tried the other duct, and by a little more patience was able to get it also opened.

I used the No. 1 probe for two or three days in each duct, and then No. 2, and in a few days more No. 3; and so on till I was using No. 8, which I kept using every day for a while, then every other day, and then once a week, till June 20th, when I thought it safe for her to go home and spend a few months, and come back again, which she did, returning February 1, 1890.

When she returned I could easily pass a No. 6 Bowman probe in either duct, and again dilated till I could pass a No. 8 with ease. I discharged her cured in April last, as several months had elapsed without the ducts again closing.

It was a long time after the ducts were well opened before the saliva took on a normal appearance, for at first it was about like the white of an egg, and had to be pressed out. It also contained some pus. She assured me that she had been unable to chew solid food, and had lived almost entirely on liquids, for more than a year and a half before I saw her, and had much discomfort even in taking liquid food, on account of the swelling and pain caused by the secretion of saliva, which could find no exit and had to be taken back into the tissues.

She had considerable trouble with the lymphatics of the neck as a result.

She has now been eating meat and other solid food for more than a year.

I have only seen one other case of the kind, and that was traumatic in origin and only on one side, in a boy who fell and bit his cheek, involving the duct and causing an inflammation which resulted in stricture. As he only came to me for consultation and did not stay for treatment, I do not know how it resulted.

The strictures in the case reported were probably the result of the diphtheritic inflammation, which must have extended into the ducts.

As I did not find a counterpart of the case I have reported in any of the literature at my command, I thought it might be of sufficient interest to report.

A CASE OF GRAVES' DISEASE: APPARENT HEREDITY.

By JULIUS ROSENBERG, M.D.,

HOUSE PHYSICIAN, ALMSHOUSE HOSPITAL, BLACKWELL'S ISLAND, NEW YORK.

ELLEN G——, a native of Ireland, thirty-eight years of age, came under my observation about six weeks ago. She has been married twenty-five years, and was pregnant eleven times. Only the third child is living; the rest were either still-born or died soon after birth. Her husband contracted syphilis some time previous to marriage, but she gives no history indicating that she ever suffered from this disease. Her father and his mother, and also his two sisters, were afflicted with what she calls "prominent eyes and swollen necks," and have died of heart disease. She has one brother and one sister, and the sister is suffering from the same deformity. Patient claims to have been in good health all her life, but says her eyes have been prominent since she was eight years of age.

At the present time patient has frequent attacks of vertigo and palpitation, and uneasy feeling referable to the heart. There is marked exophthalmus, and when she closes her eyes about one-fifth of the eyeball remains exposed. The vision in the right eye is normal; the left eye is blind, the result of an injury received about three years ago. The thyroid is slightly enlarged and harder than normal. The pulse is rapid (120 to 160), com-

pressible, and very irregular. The heart is hypertrophied and displaced toward the left, apex beat diffused. The valves are normal, and there is a blowing sound heard all over the chest, and venous lines in the veins of the neck. The other organs are normal, and the urine is negative. In glancing over the literature of Graves' disease, I find heredity hardly mentioned as a factor in its etiology. The case is well marked, its long duration and the absence of any great discomfort are also of interest. I may therefore be pardoned for sending you this abstract for your perusal.

AN INTERESTING CASE OF IMPERFORATE HYMEN.

Occlusion of the vagina by an imperforate hymen is not infrequently brought to the attention of the practitioner, whose aid is sought on account of absence of the menses in adolescent girls; and, as the necessary incision into the occluding membrane is sometimes followed by the death of the patient, it is well that he should be familiar with the changes which result from the obstruction, and with the conditions which produce death in the fatal cases.

When occlusion exists, with damming back of the menstrual blood, it seems that distention of the vagina first takes place, and then of the uterus, the Fallopian tubes being the last to suffer. When, after the obstruction has continued a long time, these organs are at last affected, each tube dilates into a series of three or four distinct blood-sacs, which are separated from each other partly by lamellæ which project internally, and partly by peritonitic false membranes and bands which constrict them from without. The uterine and abdominal ends of the tube are generally both closed. If the abdominal end remains open or yields temporarily to the accumulated blood, the blood may pass into the abdominal cavity, and may, in favorable cases, be encapsulated in Douglas' cul-de-sac as a retro-uterine hæmatocele, or between the fimbriated end of the tube and the ovary.

Usually, after a considerable quantity of menstrual blood has accumulated behind the imperforate hymen, the patient begins to suffer violent paroxysms of pain at the menstrual periods. After inflammatory processes have been set up, the pains may come on at any time between the periods. When the case is at all advanced, the patient is always in danger of peritonitis, or of rupture of the sacs in the Fallopian tubes.

The comparative advantages of complete evacuation at a sitting, and of more gradual evacuation, are still under dispute, but it seems clear that, while the former is the proper method in simple cases, the latter may be preferable in cases of long standing, where permanent changes in the relation of organs and extensive adhesions have occurred.

There are two causes of death after operation, sepsis and rupture of the Fallopian sacs. The former, which is due to decomposition of the menstrual blood which is left in the uterus and vagina, may be prevented by strict cleanliness and by antiseptic irrigations. The latter is a much more serious affair, and cannot be so easily prevented, even if weakening of the thin walls of the tense tube-sacs by septic processes is avoided. It is not now believed that residual blood is forced through the tubes by the contracting womb, since it has been proven that the uterine end of the tube is closed; it is known that the fatal hemorrhage or peritonitis is due to rupture of already formed tube-sacs. The rupture of these sacs is greatly favored by the removal of the abdominal pressure upon their walls which follows evacuation of the uterus and vagina, and also by the inability of the tubal sacs, which have become fastened by inflammatory bands to the surrounding parts, and especially to the peritoneum of the abdominal walls, to follow the uterus as it contracts after removal of its contents and the contents of the distended vagina. Rupture of the tube-sacs may be prevented by slow evacuation of the vaginal and uterine contents, and the application of a cotton pad to the abdomen, to replace the pressure exerted on the sacs by the evacuated blood. Perfect rest must be enforced. If the tube-sacs can be detected, they may be emptied or removed by a suitable operation,

Sometimes the pent-up fluid in the genital canal consists of a sero-mucous fluid, free from blood. This has been observed in childhood, and also at puberty.

Sometimes the retained blood has assumed a puruloid appearance, from admixture of pus as a result of inflammatory processes which have been excited. In the *American Journal of Obstetrics*, August, 1890, Dr. Kinloch relates a case of this sort. The patient, aged eighteen, complained of a small tumor in the hypogastrium, which was treated merely by painting with iodine. During absence from home for a year she neglected it, as it caused her no inconvenience. On her return it was as large as a uterus at seven months. Imperforate hymen being diagnosed, an incision was made, and a great quantity of odorless pus-like fluid, showing under the microscope pus- and blood-cells, was evacuated. The cavity, which had walls like an abscess, and which lay chiefly in the vagina, was emptied at once under antisepsis and a drainage-tube was introduced. The patient made a rapid recovery.

Progress of Medical Science.

Subcutaneous Injections of Water in large Quantities.—Professor Sahli, of Berne, has published a paper in which he forcibly draws attention to a simple method of rapid and safe introduction of large quantities of water into the system. The method consists in the subcutaneous injection of a sterilized blood-warm physiological saline solution (that is, a 0.73 per cent. solution of chloride of sodium) by means of a large Erlenmeyer's flask, with an elastic tube and a hollow needle as thick as a knitting-needle. As much as one quart of the solution can be easily injected in from five to fifteen minutes. If necessary, the procedure may be safely repeated four or five times a day. The best situation for the injection is the anterior abdominal wall. On each occasion the skin should previously be thoroughly washed with soap and corrosive sublimate, and the puncture subsequently sealed with aseptic cotton-wool and collodion. Under such precautions not the slightest signs of any local reaction are ever observed. In some patients, especially in those with flabby abdominal integuments, the procedure causes but trifling pain; in very sensitive or restless persons, however, general anæsthesia is advisable. The effects of the injections are thought to be as follows: 1. Under certain conditions they thoroughly wash out the patient's system by inducing profuse diuresis accompanied by a strikingly increased elimination of solid constituents of the urine. 2. They dilute the body juices and poisonous substances present therein. 3. They furnish the necessary water supply to dehydrated tissues. 4. They aid the filling up of blood-vessels, and thus raise an unduly lowered arterial tension. Such subcutaneous injection of water is indicated: 1. In cases of uræmia complicating the course of either acute or chronic nephritis, where the injection of a litre of the solution once or twice daily is, as a rule, rapidly followed by a striking abatement of all symptoms. The best results, however, are frequently obtained when the injections are combined with the internal administration of digitalis. 2. In the "typhoid" state, where frequently even after the very first injection delirium ceases, the pulse becomes stronger and fuller, the tongue moister, etc. 3. In Asiatic cholera, cholera nostras, infantile diarrhœa. 4. In poisoning by any toxic substances, but especially by those which are liable to be eliminated from the organisms through the kidneys. 5. In cases where an internal use of water should be avoided (in order to secure physiological rest of the gastro-intestinal tract)—

for instance, in cases of perforation of the stomach or bowel, peritonitis, ileus, etc. 6. In cases of acute anæmia from hæmorrhage. The method is contraindicated (1) in cases of incipient or expected pulmonary œdema; and (2) in the presence of severe dropsy.—*British Medical Journal*, September 20, 1890.

Aprosexia in Children.— Mr. Shaw states that in the aural out-patient practice of several large hospitals, he has made inquiries from the mothers who have brought children to be treated for deafness as to the mental acuteness of these children, and he was struck by the frequency of the statement that with the onset of deafness the children became much duller mentally and showed a marked change in their capacity for schoolwork (*The London Medical Recorder*). On further investigation the author found that when this dulness had been noticed there was invariably present an overgrowth of adenoid tissue of the pharyngeal tonsils, and in the immediate neighborhood of the orifice of the Eustachian tube. On removing this growth, or even on scarification, the deafness was relieved, and at the same time an improvement was noticed in the mental capacity of the child. In 1887, Professor Guye, of Amsterdam, drew attention to this particular class of cases, and revived the use of the word "aprosexia," which is the Greek for "heedlessness." Professor Guye attributed the mental condition in these cases to a supposed congestion of the intracranial venous and lymphatic systems, caused by the enlargement of the lymphatic glands in the neighborhood of the pharynx and nose, which are in connection with the lymphatics of the anterior lobes of the brain. Ferrier has shown that in the monkey extirpation of the pre-frontal lobes of the brain has been followed by a marked impairment of the faculties of attention and observation. Co-existent with the hypertrophy of lymphoid tissue, which produces the "adenoid vegetation," there is found an increase of the more purely fibrous connective-tissue element in the neighborhood; this has a tendency to contract, and so causes compression of the lymphatics, and obstructs the flow of lymph, so that the waste-tissue products, derived from the metabolism going on in the cortex of the fore-brain, are prevented from making their escape, and remain in the cerebral cortex, interfering with and hindering its proper nutrition, the resulting malnutrition giving rise to the condition which is termed "aprosexia."

Wandering Rash on Children's Tongues.—At a recent meeting of the Calcutta Medical Society, Dr. Towers showed a case of this kind. He said it was a condition of the dorsum of the tongue which has only of late years been differentiated as a distinct affection. Other names for it are "ringworm, circular exfoliations, geographical tongue, etc." It is well described and depicted in Butin's "Diseases of the Tongue." The characters of the rash are, that it is met with chiefly in children, that it seldom gives rise to disagreeable symptoms, that it is unaffected by treatment, that its area and distribution are subject to constant changes, that it is apt to persist for a long time, and ultimately to disappear spontaneously. It consists of one or more circinate patches on the dorsum, of various sizes, separate, or confluent, smooth, red, and on the same level as the surrounding surface, with a distinct whitish or yellowish border. The filiform papillæ have been shed, but the fungiform distinctly remain. Rings may form within rings. It commences always on the dorsum. On account of the few subjective symptoms it is usually discovered by accident. The cause of the disease is unknown, but it appears to be associated with debility. It has to be differentiated from syphilitic mucous patches, leucoma, and icthyosis. In syphilis the patches are distinctly raised above the surrounding surface and are grayish upon their surface, and there are present other signs of syphilis. Leucoma is a disease of adults, and consists of pearly patches with red borders and bases. Moreover, leucomatous patches do not change from day to day. Icthyosis is also a disease of adults, and consists of patches of hypertrophied filiform papillæ, while just the opposite condition obtains in this affection.—*Indian Medical Gazette.*

Euphorine.—Under the name of euphorine Dr. Sansoni describes the physical and therapeutical properties of a new compound which, chemically, is phenylurethan. It is a white crystalline powder, with a faint aromatic odor and a slight taste suggesting that of cloves. It is sparingly soluble in cold water, readily dissolves in alcohol, and is best administered in white wine, in which it is easily dissolved. Given to healthy men, in doses of from 1½ to 3 grains, euphorine has no apparent effect upon the pulse, the respiration, or the temperature; and in dogs large doses do not lower the blood-pressure, as determined by the manometer. Still more important is the fact that it causes no changes in the blood—in animals the blood remaining normal even after toxic doses have been given. Clinically, Sansoni finds that euphorine possesses valuable antipyretic, antiseptic, antirheumatic, and, in some cases, analgesic effects. As an antipyretic, he has employed the drug in fever from various causes, such as typhoid fever, croupous pneumonia, phthisis, acute rheumatism, pleurisy, orchitis, influenza, etc., administering it either as a powder or dissolved in wine. The fall of temperature begins within an hour after the administration, reaches its maximum usually in about three hours, and continues, as a rule, for from five to seven hours. In some cases the fall is more brief, and in a few it continues for fourteen hours. The subsequent rise of temperature is usually sudden and accompanied with a chill, the duration and severity of which are proportionate to the intensity of the disease. During the period of apyrexia the patient has a feeling of well-being. Cyanosis is seldom observed, and the pulse and respiration are regular. The antipyretic effect varies in different persons, and it is best to begin with a small dose (1½ grain), increasing until the proper amount is determined. To most adults, from 15 to 22 grains can be given daily without producing harmful effects, its antithermic power being about twice that of antipyrine. In rheumatism, both acute and chronic, the doses of euphorine should be larger than those given to reduce temperature. From 22 to 30 grains, or even more, should be given daily. In acute rheumatism the good effects appear very soon after the drug has been administered; the temperature falls, and the pain, whether due to inflammation or to the pressure of the swelling, disappears. As an analgesic, euphorine is very useful in orchitis, less so in sciatica, lightning pains of tabes, and trigeminal neuralgia, and is almost useless in intercostal neuralgia and migraine. The observation that carbolic acid is formed when euphorine is brought in contact with an alkali, led Sansoni to test its antiseptic powers, which, in the case of an obstinate ulcer and one of chronic ophthalmia, he found were excellent.—*Medical News*, October 11, 1890.

Antiseptics among the Ancient Greeks.—Professor Anagostakis, of Athens, has published some interesting facts in reference to the employment of antiseptic measures among the ancient Greeks. Hippocrates and Galen were aware that an unclean condition of wounds retarded healing. They were also well acquainted with the fact that by thorough hæmostasis, suture, and the employment of antiseptic measures, infection of wounds might be prevented. Hippocrates warned his disciples against the use of moist dressings, on account of the danger of suppuration, and forbade the employment of drugs before the wound was dry. Above all, says Galen, avoid dirt, as it prevents healing. The ancient Greeks boiled their water before applying it to wounds. Sponges were avoided, and charpie recommended in their stead, which was to be destroyed after use. One of the principal antiseptic substances then in use was wine, which was usually heated before using, and with which, according to Hippocrates, all wounds were to be washed Dressings dipped in wine

were also applied to the wound. Salt was in very general use, either in solution or in the form of sea-water. The solutions were rendered aseptic by boiling. Sulphate of copper was relied upon as an antiseptic for foul wounds, and was also put into use as a hæmostatic. Tar was highly praised for its antiseptic virtues, and was either applied in the form of a dressing or directly poured upon the wound. Besides these, many aromatics and bitters were in daily usage, among which were thyme, rosin, asphaltum, etc., used as dressings, or in the form of plasters. Galen was acquainted with catgut, and advised the use of non-putrefying substances for sutures. Professor Anagostakis declares that all this was not empiricism, but an antiseptic method founded upon some knowledge of the principles governing the healing of wounds.—*Druggists' Circular.*

Some Anomalies of Secretion of the Mammary Glands. After referring to the repeatedly observed phenomena, in the animal and human subject, in which the male glands secreted milk copiously, Dr. Landau lays stress upon the importance of recognizing not only the qualitative fluctuations in the milk of nursing women, but also the great difference which frequently exists between the milk secreted by the two glands in the same individual. He has seen cases in which the secretion from one breast was sweet, that of the other being just as copious and rich, but having a salt taste. Diseased conditions of the subject have a powerful influence upon the character of the secretion, yet it is not so profoundly altered as not to be termed milk in a chemical sense. With vicarious menstruation the most pronounced changes take place. One case under the observation of Landau has monthly flows of blood from both mammæ. The appearance of abnormal secretion from the mammary glands must be regarded as of evil import, not infrequently constituting a symptom of malignant growth in the gland. Three cases were observed by the author in which abnormal secretion took place from one breast in women at the menopause. In one the patient found that every morning the night-dress was soiled on the left side of the chest with what she supposed was matter; shortly before and during the menstruation the secretion became more copious; gradually the originally yellowish-white fluid became darker, and was finally dull black. Her physician injected some substance—probably iodine tincture—which caused the secretion to cease for two weeks, only to reappear with wonted characteristics. The left breast was uniformly softer than the right. Microscopically, the fluid was seen to contain numerous blood-disks, colostrum bodies, free fat-globules, and a few lymphoid cells; epithelial cells and crystals were wanting. Reaction was neutral It was concluded that the fluid was a mixture of milk with some blood. Patient's health was excellent. A compression bandage was placed over the breast; three days later there was not a drop of the fluid secreted. He considered this case simply one of late lactation; it may be that through the congestion of the gland its vessels became engorged, and that blood-disks found their way into the milk channels by diapedesis through the lymphatics. The bandaging caused the spontaneous flow of the fluid to cease.—*American Journal of Obstetrics*, October, 1890.

Laparotomy for Tubercular Peritonitis.—A paper on this subject by Dr. Wheeler (*The Breton Medical and Surgical Journal*, September 11, 1890) concludes as follows: "The calm facts are that certain cases of tubercular peritonitis are open to surgical cure. Although no general cure has been discovered, a step in advance has been made. Now as to the kind of case which promises good results after operation. Not all cases of tubercular peritonitis are to be operated on, by any means. A certain number get completely well without operation, and another number is outside the possibility of help A certain group of cases are unhesitatingly to be operated upon, another group are to be unhesitatingly let alone, while in others the question must be decided on individual merits. It is impossible to settle the question by tables of symptoms, but the author enumerates a few of the indications and contra indications, prefacing that the general condition of the patient will perhaps settle the question of operation or no operation, as often as anything. First. Indicating operation: 1. Abundant ascites. 2. Absence of small amount of solid masses. 3. Disease primary in the peritoneum, though the mere presence of tuberculosis elsewhere does not forbid operation. Some cases have apparently recovered entirely, when there was slight co-existing disease of the lung, both peritoneum and lung becoming healthy. 4. Encysted disease, that is, serous or purulent pockets. 5. Intestinal obstruction. In the last two, operation is imperative. On the other hand, contra-indicating operation: 1. Absence of ascites. 2. Abundant masses or strands. 3. Secondary to advanced general tuberculosis. 4. Intestinal ulcers. The last two forbid operation. As to method of operating. The abdomen should be cleaned out as well as possible, by flushing with hot water and sponging; separating meanwhile any adhesions which can be broken without injury to the viscera. No antiseptic and no drain, unless for some special reason, as for instance, hemorrhage. Tapping should not be practised. There is danger of doing harm, and it cannot do so much good as laparotomy."

Resection of the Cæcum for Carcinoma.—Dr. Senn (*Journal of the American Medical Association*) announces the following conclusions on this subject: 1. Resection of the cæcum for carcinoma can be done with a fair prospect of a permanent cure if the operation is performed before infiltration of the retro-peritoneal and mesenteric glands has occurred. 2. Ileo-colostomy with absorbable perforated approximation plates is the best method of restoring the continuity of the intestinal canal after excision of the cæcum. 3. The best material for approximation-plates is decalcified bone preserved in an antiseptic solution. 4. Hygroscopic and indestructible or inabsorbable material should not be used in the preparation of approximation-plates or rings, as the former may cause pressure-gangrene, and the latter may prove a source of danger by remaining permanently as a foreign body in the organ in which it has been introduced. 5. Ileo-colostomy without resection of the cæcum is indicated in cases of intestinal obstruction from inoperable carcinoma of the cæcum, irreducible invagination without perforation or evidences of gangrene, and in cicatricial stenosis in the ileo-cæcal region not amenable to a plastic operation. 6. Scarification of the serous surfaces interposed between the bone-plates is the most reliable means of hastening the formation of adhesions and of shortening the process of definitive healing. 7. Resection of the cæcum and ileo-colostomy, with or without enterectomy, should be done through a lateral incision, extending from near the middle of Poupart's ligament to a point half-way between the anterior superior spinous process of the ilium and the umbilicus. 8. Suturing of the serous surfaces just beyond the margins of the bone-plates renders material aid in maintaining apposition between the serous surfaces which it is intended to unite, and furnishes an additional safeguard against fecal extravasation. 9. Anchoring of the approximated parts in the ileo-cæcal region with a mesenteric-peritoneal suture should be done in ileo-colostomy after resection of the cæcum.

The Catalogue of a Bogus Medical College has fallen into the hands of a daily paper, which has attempted an investigation. It is called the Union Medical Institute, and is situated in a small Vermont town. The Faculty seems to consist of a very mixed company, containing among others a telegraph operator, a newspaper reporter, and some doctors of doubtful title living several hundred miles away.—*Boston Medical and Surgical Journal.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, November 29, 1890.

THE CLIMATOLOGY OF BRIGHT'S DISEASE.

DR. CHARLES W. PURDY, of Chicago, has made a study of the influence of climate in the United States over Bright's disease (*New York Medical Journal*, October 4, 1890). His work is based upon the statistics of the Tenth Census, according to which there were, in 1880, 75,386 deaths from the disorder in question, giving a ratio of 7.11 to every thousand deaths. This figure Dr. Purdy takes to represent the average for the country. Starting with such an assumption, he finds that in New Jersey, New York, Connecticut, Massachusetts, and New Hampshire, the average is exceeded two to four times. On the other hand, in the States of Tennessee, Georgia, Nebraska, North Carolina, and Arkansas, the ratio is from three to four times below the average.

Taking the country by districts, it is found that Bright's disease attains its highest mortality in the middle Atlantic coast region—19.73 in 1,000—or considerably over two and a half times more than the average for the whole country. The North Atlantic coast region comes next in order, the ratio being 17.38 in 1,000. The north-eastern hills and plateaus furnish the next highest ratio—11.20 in 1,000 deaths. The average for the three regions just named is 16.15 in 1,000—or nearly two and a half times higher than the average for the whole country.

Dr. Purdy thinks that his statistical inquiries justify the following conclusions:

1. That the chief features of climate in the United States which most strongly tend to increase the death-rate from Bright's disease are cold, moisture, and changeability of temperature.

2. That the elements of climate which tend in the greatest degree to decrease the death-rate from Bright's disease are warmth, dryness, and equability.

3. That cold most markedly increases the mortality from Bright's disease when associated with moisture, a comparatively low temperature being well borne if the atmosphere is a dry one.

4. That a comparatively high degree of humidity of the atmosphere does not markedly increase the mortality from Bright's disease if accompanied by warmth and equability.

5. That the most unfavorable residence localities for patients afflicted with Bright's disease in the United States are comprised within the Atlantic coast region and north-eastern hills, which include the States of New Jersey, New York, Connecticut, Massachusetts, New Hampshire, and Vermont.

6. That the most favorable residence localities are chiefly comprised within the Southern interior, and especially include the States of Tennessee, Georgia, North Carolina, Arkansas, and Texas.

The general correctness of the foregoing will not probably be questioned. Long ago, Lombard, in his "Climatologie Médicale," showed that Bright's disease was rare in extreme northern regions, frequent in the temperate zone, and comparatively rare, with striking local exceptions, in tropical regions. It is, for example, said to be frequent in parts of India.

There are other elements than the purely climatic or meteorological, however, which aid in determining the local prominence of this disease. Race has apparently a decided influence. The Irish, for example, seem to be especially susceptible to the disease in this locality. In New York City, which has the enormous death-rate from Bright's disease of 60 per 1,000, over half the deaths are among the foreign-born. On the other hand, the death-rate from Bright's disease among negroes is very low, being, as near as can be estimated, at least one-half less than the average. This would considerably influence the mortality-rate in the South.

One factor not mentioned by Dr. Purdy, which has long been recognized as influencing the production of Bright's disease, is the prevalence of malaria, and this may explain the predominance of the disease in certain parts of the South.

Finally, it is an unfortunate fact that the vital statistics of the Tenth Census are extremely incomplete and untrustworthy, especially as regards the South. So that, on the whole, we could not place much confidence in the conclusions drawn by Dr. Purdy, if they were not more or less borne out by the general clinical experience of the profession.

LUPUS VULGARIS.

LUPUS VULGARIS, of which we are now hearing so much, is an extremely chronic disease of the skin, attacking persons between the ages of two and fifteen. It is characterized, says Green, by the appearance of reddish-brown nodules of granulation-tissue upon the skin, usually of the face. The mucous membranes are rarely affected. The nodules start in the corium, but penetrate the connective tissue beneath and the papillary layer above. The different stages and clinical aspects of the disease as it progresses are known as lupus maculatus, lupus exfoliativus, lupus exulcerans, lupus serpiginosus, and lupus hypertrophicus.

The disease spreads by the formation of fresh nodules at the periphery of the original lesion. New centres form and the old ones may gradually disappear. If the tissue breaks down an open sore is found, covered with yellowish and brownish crusts.

The nodules consist of granulation-tissue, containing epithelioid and a few giant cells. Unlike ordinary tubercle, the lupus nodules are rather vascular. Tubercle bacilli are found in the tissue, but they are very infrequent, and often many examinations are required to detect them. Inoculation of lupus nodules will, it is asserted, cause tuberculosis in rabbits and guinea-pigs; but

noculation of the skin with tubercle will not produce lupus.

For this and other reasons so distinguished an authority as Kaposi denies that lupus is a cutaneous tuberculosis, although that view is held positively by Koch and his pupils.

Lupus, chronic as it is in its tendencies, often disappears for a time under treatment, only to reappear later. Dermatologists generally give a favorable prognosis, provided treatment is persisted in.

THE CARE OF THE PRIVATE INSANE.

SINCE the passage of the New York State law for the care of the insane poor, a serious question has arisen regarding the proper treatment of such insane persons as are neither poor nor rich, but who have, at reasonable rates, been allowed the privilege of the State institutions. The Chief Commissioner of Lunacy, Dr. Carlos F. MacDonald, in connection with the Board of Lunacy, is very properly inclined to interpret the law in its literal sense and act accordingly. In future, then, no patient can be admitted into any State institution as a private individual, paying his or her board. While this may remedy what in some of the asylums of the State has heretofore grown to be an abuse, it will doubtless bear heavily upon the middling classes of insane, who at present have no means of being cared for outside of the private and high-priced asylums. What shall be done with these unfortunates is still open to serious question. It might be well to suggest that the State take a hand also in the solution of this part of the problem, by creating extra asylums which should be absolutely self-supporting, and in which accommodations can be obtained at merely cost rates.

USEFUL ATHLETICS.

A STORY with a pathetic leaning has appeared in a recent issue of a leading newspaper, detailing the case of a rich invalid lady who was suddenly reduced to poverty, and whose changed condition demanded the performance of her own household duties. As if, however, to prove that all evil is not unmixed with good, we are informed that by the forced exercise of her new functions at the wash-tub, the ironing-board, and the cooking-range, she became strong, her aches disappeared, and her sleep was sound and refreshing. Although it was extremely sad that the calamity of forced work should have fallen upon such a delicacy of feminity as possessed by the unfortunate subject of this healthful moral, all of her friends stand ready to congratulate her on the change so radically wrought. Although the wash-tub, broom-handle, and scrub-brush are not in the category of apparatus for the treatment of neurasthenia and its thousand and one accessory symptoms, we should not be slow to take the hint of their indications. The drill of the broom-handle may yet be found efficacious in straightening curved spines, the wash tub in expanding chests, the clothes-wringer in massaging imprisoned ovaries, and the scrub-brush in correcting retroversions.

Dr. Koch has been presented with the Grand Cross of the Order of the Eagle.

News of the Week.

New Regulations for the Care of the Insane.—The New York State Commission in Lunacy has adopted two new orders. The first provides that each insane patient shall be permitted to write to some friend or relative at least every two weeks, and in the case of patients unable for any cause to write, the medical superintendent of any State hospital must direct some proper person to write for such patients at suitable intervals, if they so desire. All letters of insane patients which are detained must be forwarded to the commission, accompanied by a statement of the reasons for such detention. All letters addressed to State officers, judges of courts of record, and district attorneys must be immediately forwarded without examination, and where the insane patient is unable to pay the postage it must be furnished by the institution. The second order states that no insane patient, while in the custody of an institution, shall be permitted to go upon parole who, in the judgment of the medical superintendent, is dangerous, either to himself or others; that no parole be granted for a greater period than thirty days; that upon the escape of a patient prompt and vigorous measures be taken to secure his return; and that a patient who has been paroled or has escaped, if not returned to the institution on the thirtieth day thereafter, must be discharged from the books of the institution upon that day, and a notice of such discharge must be forwarded to the commission, and such patient must not be readmitted except upon a new medical certificate of lunacy, the cost of which, and of the return of the patient (except in the case of a private institution by special agreement), must be borne by the institution.

The Preparation of Koch's Lymph.—The *Berliner Tageblatt* says: "The preparation of Professor Koch's curative lymph is proceeding rapidly, but the quantity required for hospitals and medical associations cannot be made ready before the end of January. The attempts that have been made to imitate the lymph justify the adoption of severe measures against the imitators. The lymph is now available for use in most of the Berlin hospitals. At the University Hospital the doctors limit the use of the remedy to persons who are strong enough to come to get an injection. All money realized from the sale of the lymph goes into the funds of the Hygienic Office."

Later Opinions on the Value of Koch's Discovery.—Professor Virchow defends Professor Koch against the charge of prematurely publishing his discovery. Professor Koch, he says, only consented to the disclosures already made at the request of Minister von Gossler and several of his medical colleagues, Doctors Virchow, Levy, and Bergmann. Everyone in Professor Koch's confidence supports his protest against the sensational expectations regarding the results of the remedy. Professor Stellwag, of the Vienna University, addressing the students, advised them to be cautious in expectance, believing only what Professor Koch has directly stated. "So far," added Professor Stellwag, "the possibility of the cure of lupus alone has been proved, while it has not been scientifically established that lupus arises from the same bacillus that is associated with lung tuber-

cles." Dr. Ullmann writes: "It will take fully a year of frequent injections, besides treatment under right sanitary conditions, to enable one to form a reliable opinion as to the curability of consumption, either in advanced or in early stages." Doctor Ullmann worked for several months in Professor Koch's laboratory. He believes the remedy promises good results in cases of external tuberculosis, although, he says, relapses must be guarded against. Doctor Surycki, reporting to the Medical Society of Cracow, which sent him to Berlin to investigate, declares that even the cure of external tuberculosis by the new process is uncertain, while he sees no grounds for believing that it will cure consumption in any stage. Doctor Kraus, of Vienna, affirms the benefit of the remedy for tuberculosis of the bones, skin, and joints, but does not believe that it will ever heal lung tubercles. Doctor Kraus was in attendance in Berlin for several weeks, testing the experiments. Professors Fraenzel and Runkuritz, in their latest report, confirm the opinion that the injections do not materially check advanced phthisis. They do, however, arrest early phthisis, but the bacilli may revive and reinfect the tissues. The opinions of a number of other experts—German, Austrian, and English—all of the same tenor, are becoming known, and tone down the excited public expectations.

Medical Statistics of Berlin.—In the beginning of this year the population of Berlin was over a million and a half, the number of its physicians and surgeons 1,398, of its dentists 107, of its privileged pharmacies 120, and of its hospitals 34, with 4,635 beds.

A Paper Entitled "The First Post-mortem Performed in New England," was read by its author, C. J. Hoadley, librarian at the Capitol, before the Hartford (Conn.) Medical Society. It described the post-mortem appearances found on the body of a child, eight years of age, Elizabeth Kelly by name, who died in March, 1662. The child evidently died of some acute disease, but her death was ascribed to the malignant influences of witchcraft. The accusedgude wife Ayers and her husband had to fly from their home, lest they should be made to suffer the penalty of the charge, which was hanging. They left behind them a child, who became the ancestor of one of the present families of Hartford.—*Boston Medical and Surgical Journal.*

How to Keep Out Undesirable Immigrants.—The report of Surgeon-General Hamilton on the subject of immigrant inspection is worthy of careful consideration by Congress and the people of this country. General Hamilton has visited the principal ports of Europe from which the great flood of our immigration flows, and while he found no reason to believe that emigrants were "assisted" to any great extent to sail for this country, his observation showed that the "inspection" supposed to be made by the steamship companies was of no practical value as a restrictive measure. In New York the inspection of arriving immigrants is comparatively strict; but even here lunatics and idiots have been allowed to land in spite of the inspection. The Surgeon-General thinks that many undesirable immigrants reach here by way of Canada, less care being exercised on our northern border than on the steamships that come directly here from European ports. He suggests a preventive measure which, if not absolutely perfect, would prove a long step toward the restriction that is becoming day by day more necessary. His plan is to oblige every intending emigrant to file before the United States consul of the port from which he sails evidence from the local authorities that he has never been convicted of crime, and that he has never been a charge on his native country, with the certificate of a resident physician that he is not afflicted with any contagious disease. On filing this the consul is to furnish him a certificate of character, so to speak, which entitles him to enter the country, and which is to be taken from him by the proper official on his arrival and filed for future reference. This certificate is to be produced, if called for, on his application for naturalization. Such a system as this would certainly prevent the entrance of thousands of objectionable immigrants, while it would open wide the doors of our national hospitality to desirable classes of foreigners.—*New York Times.*

Some of the Students at the Woman's Medical College, Philadelphia, want to abolish the regulation white silk dresses on Commencement day, and wear instead the dignified gown and scholarly mortar-board; others want to have the white robes. The Faculty is nearly as much disturbed in finding a solution for the all-absorbing problem as the girls are. A member of the Faculty has said that there is no predicting when the question will be settled.

The Meetings of Medical Men have often aroused enthusiasm and provoked eloquence, but the recent meeting of the Mississippi Valley Medical Association has made the *American Practitioner and News* poetic. After quoting Whittier and Byron, our esteemed contemporary concludes: "The 1890 meeting of this representative body of medical men is a sweet fragrance in local professional memory. It will be thrice welcome when it comes again." We wish that all medical meetings would leave behind them memories so pleasant.

A Visit Postponed.—The *Journal of the American Medical Association* contains the following: "It had been very generally announced that Sir Morell Mackenzie would visit America, and lecture in some of our principal cities during the fall. It is now reported that, by reason of ill-health, he is obliged to cancel his engagements, and defer his visit until some later day."

A Doctor Sues a Doctor for Medical Attendance.—It is a recognized custom, as between *confrères*, that no charge is made for medical services, but it must, of course, be borne in mind that this is an act of courtesy and does not disqualify a practitioner from making a charge, should he think fit so to do. Under any circumstances there is a limit, and we think that the privilege should only be held to extend to men actually in practice. These reflections are suggested by the report of some proceedings in the Dover County Court, brought by Mr. Long, a local practitioner, against Dr. Chittenden, a medical man who has retired from the exercise of his profession. Dr. Chittenden was condemned to pay the sum claimed (twenty guineas), plus the costs, so that the next time he requires professional assistance he will at any rate know what he is about.—*Medical Press.*

Reviews and Notices of Books.

DISEASES OF THE RECTUM AND ANUS: THEIR PATHOLOGY, DIAGNOSIS, AND TREATMENT. By CHARLES B. KELSEY, A.B., M.D. Professor Diseases of Rectum, New York Post-Graduate School, etc. Third edition. 8vo, pp. 483. New York: William Wood & Co. 1890.

THE third edition of this well-known treatise makes its appearance with many additions which add greatly to its value as a guide to the advanced student of rectal diseases. The terse and perspicuous style of the author enables him to compress a vast amount of practical information in a comparatively small compass. His extensive experience is formulated in a direct and convincing way to the reader, and altogether there is an individuality about the work which gives it its chief excellence. The principles of practice laid down are eminently sound and judiciously conservative. This is especially true with the major operations for the relief of malignant disease and other equally formidable conditions. Notwithstanding the claims of success of the bolder operators in connection with formidable procedures for extirpation of large portions of the rectum, he wisely clings to the older and more acceptable method of surgical interference. For instance, Kraske's operation does not find favor with him, and he still very properly advocates the old principle of restricting extirpation to those cases in which only four inches of the gut is involved in the diseased process. This advice is eminently safe, and will so be considered by every surgeon of experience in those lines of work. His preference for colotomy, as a means of safe relief in such cases, is what would be naturally anticipated under the circumstances. The other portions of the volume are equally practical and interesting, the author losing no opportunity of enforcing the essential methods of treatment as applied to the varied forms of rectal troubles.

A TEXT-BOOK ON DISEASES OF THE EYE. By HENRY D. NOYES, A.M., M.D., Professor of Ophthalmology and Otology in Bellevue Hospital Medical College; Executive Surgeon to the New York Eye and Ear Infirmary, etc. Illustrated by 6 Chromo-lithographic Plates, 5 Plates in Black, and 236 Wood-engravings. Pp. 733. New York: William Wood & Co. 1890.

THIS work is an elaboration of a treatise on diseases of the eye, published in 1881, in Wood's "Library of Standard Medical Authors." It is divided into two parts: the first part takes up the general anatomy and physiology of the eye, its functional disorders, methods of examination, and the use of the ophthalmoscope; while the second part considers the inflammations and textural changes of the different ocular tissues. The second part, comprising nearly three-fourths of the volume, is obviously of most practical interest to the medical practitioner. In it the structural diseases are discussed in an almost perfect anatomical sequence of tissues. While disturbances involving refraction, accommodation, and motility, as also the operative surgery of the eye, will always especially interest the practitioner in ophthalmology, this book emphasizes the necessity of a thorough acquaintance with the ophthalmoscope, as essential to a confirmation of what the general practitioner wants to know. Some of the most interesting chapters are those in what may be styled medical ophthalmic practice; or the participation of the eye in affections of the kidneys, heart, uterus, and in those reflexes in which this organ has been thought to play an important part.

Under the head of asthenopia and muscular insufficiency the author writes with his well-known clinical discrimination. He prefers full correction of the optical anomaly by the judicious use of prisms. As tenotomy has lately come to the fore, the literature of this surgical procedure is briefly reviewed. It will, perhaps, be a surprise to learn that in 1841 the French surgeons, Bonnet, Guérin, and others, employed tenotomy for the relief of asthenopic symptoms. Graefe, however, in 1869, first intelligently adapted its use to deficiency of adduction in myopia. Complete tenotomy was usually the practice of the elder Graefe, while Albrecht Graefe, Abadie, and others employed partial tenotomy; lately Stevens has very largely practised what he prefers to call "graduated tenotomy," or the repeated division of small parts of the tendon at intervals of a few weeks or months. Our author prefers complete tenotomy if this procedure is to be resorted to, and controls its effect by a suture. He has had no experience with the repeated partial tenotomy, as done by Stevens. As to which operation is best, and as to the general question of surgical interference, no definite rules can be given.

The author gives precise details as to the surgical steps for extraction of cataract, and the management and behavior of such convalescents are graphically sketched. The careful writing of this chapter, the judicious display of the instruments required, and the dangers to be avoided in operating, must make this chapter most attractive to the ophthalmic surgeon. As to whether the extraction of hard cataract shall be done with or without iridectomy, only large experience can decide. The omission of iridectomy is just now popular. This largely does away with the possibility of damage occurring from irido-cyclitis and deeper-seated inflammations; on the other hand, prolapse of iris and a cystoid scar may result when no iridectomy is performed. Author states the rule that it is better to do iridectomy if the tension of the eye be great. He concludes that the operation may in the future be done without iridectomy in the majority of cases, while in special cases excision of iris will be practised.

Lack of space will not allow a more extended critical review of this volume. It is one of the best, as also one of the fullest, books in ophthalmology, or, more strictly, in ophthalmological diseases, in the English tongue. While it cannot be said that just at present a new treatise was necessary, it may easily be said that a studious perusal of the chapters of Dr. Noyes's book will prepare one with what is not only current, but with what is also best, in ophthalmic science.

The publishers have been most liberal in the number and quality of the illustrations; all in all, the appearance of the work is highly fortunate and opportune.

THE THROAT AND NOSE, AND THEIR DISEASES. By LENNOX BROWNE, F.R.C.S.E., Senior Surgeon to the Central London Throat and Ear Hospital, etc. Third edition. 8vo, pp. 690. Philadelphia: Lea Brothers & Co.

THE author has taken great pains to make the successive editions of his work acceptable to the profession, by keeping it abreast of the voluminous literature of his subjects. The second edition was virtually rewritten, and the third, which is before us, is replete with new things, and fully sustains the author's reputation for faithful and conscientious work in his specialty. In the present edition the diseases of the nasal fossæ are more elaborately treated than formerly, and give a corresponding importance to that part of the treatise. A peculiar and valuable feature of the work is the number of accurate and finely illustrated pathological appearances of the different diseases of the throat and fauces, all drawn from nature by the author, and all more or less typical in character. The work has unquestionably secured for itself the position in the first rank of authoritative ones in the specialty.

A New Method of Bleeding in Pulmonary Congestion.—Dr. J. C. Simpson (*Lancet*) reports four cases of pulmonary congestion in which he drew blood from the lungs by driving an aspirator needle directly into the tissue, withdrawing it, and then letting the blood flow out through a cannula. The operations were successful, though the patients all eventually died from other causes.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

OPENING OF THE NEW BUILDING, NOVEMBER 20, 1890.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

THE meeting being the opening reception in the new building, 17 West Forty-third Street, it was largely attended by both the profession and the laity. Over a thousand people were present. The programme of exercises included an invocation by Rev. Howard Crosby, D.D.; an address by the President; the anniversary oration, "The New York Academy of Medicine," by Edward L. Keyes, M.D.; an address, "Our Library," by A. Jacobi, M.D.; and an address by Fordyce Barker, M.D. The addresses and the oration appear in this number of the MEDICAL RECORD. There were also addresses of congratulation from neighboring cities by Drs. John S. Billings, U. S. A., S Weir Mitchell, and Reginald H. Fitz. The exercises were interspersed with music and closed by a collation.

MR. D. WILLIS JAMES, who was to have delivered an address, "The Influence of Scientific Associations upon Great Cities," sent a letter regretting his inability to be present, and stating further: "New York cannot learn too soon the fact that a great imperial city cannot be built on material prosperity alone. The foundations must be deeper, broader, and more enduring. Years ago, in the city of Wurzburg, I was deeply impressed by the fact that the magnificent palace begun centuries ago as a home for regal magnificence, luxury, and display, was going to decay and was shrouded in gloom, while a hospital started at the same time, to be of service to the needy and the suffering, was, after the lapse of the centuries, doing its beneficent and holy work, and out of which had sprung a medical college, the fame of its distinguished professors drawing crowds to the city.

"If New York is to be the great imperial city of the future, we must see to it now that we plant and foster not only churches and schools, hospitals, art galleries, and parks, but also great universities, largely endowed, and, as most important parts of these universities, medical colleges, magnificently and munificently endowed, so that they shall have every possible facility for accomplishing the best work. . . . Looking at the magnificent work the medical profession have done and are doing, remembering all they are accomplishing for suffering humanity, stirred as our enthusiasm is by the discoveries of such men as Professor Koch, of Berlin, with their promise of lasting benefit to humanity, let us, as citizens of New York, see to it that in our midst the means are amply and promptly supplied for the most complete scientific research in all departments of learning, but especially in medical science."

Congratulations from Washington.—DR. JOHN S. BILLINGS, U. S. A., said he esteemed it a great privilege to be present on this occasion, and congratulated the fellows of the Academy most warmly and heartily upon their acquirement of a permanent home. He offered these congratulations not only as an individual warmly interested in the progress of the work of the Academy, but in behalf of the medical officers of the army, and of other departments of the Government, who of late years had experienced much hospitality and courtesy in the rooms of the Academy, while stationed in New York City and its vicinity. While many things had been gathered together beneath this roof, for the benefit and use of the members, yet the central figure in the eyes of many, and certainly in his own eyes, were the library and reading-rooms. In this hall one could meet with distinguished, learned, and skilful men of the profession living in this city, and obtain knowledge and advice from them upon subjects which they might treat of; further, in these rooms one could meet with the great and illustrious dead and the living of the profession of all countries, ready to give information upon all subjects regarding which one might choose to consult them. They were never obtrusive, they were never in a hurry to get away; they would wait one's time with infinite patience.

Basing some remarks upon personal experience in what he facetiously called a "branch" of this library in Washington, the speaker mentioned something which he thought it most desirable a library of this kind should have. The most important thing in a medical library was its collection of journals and file of current journals. Next to these came the collection of statistical matters, hospital reports, society reports, collection of cases, vital statistics. The reason for this was that no physician could by any possibility keep these things in his own library. He would say, speaking roundly, that every physician ought to take five medical journals; that every physician who was a teacher or a specialist, or pretended to keep well up with what was going on in his profession, ought to take a dozen journals; that every journal club and small library should take from twenty-five to fifty journals; that every fairly large library, such as this Academy of Medicine, ought to take three hundred current medical journals, and at least seventy-five transactions; every national collection should take the whole lot, good and bad, which numbered considerably over a thousand journals. This number had to be increased by about thirty thousand, in order to complete the files of back medical journals. While recommending as full a list of medical journals and transactions as possible for consultation purposes, he did not wish to underestimate the value of text-books and bound volumes. In keeping up the files of journals, hospital reports, circulars of the medical schools, etc., a great deal more labor was required than any librarian could attend to. He must have the assistance of a number of skilled men. He had never before so fully appreciated the influence of a large medical journal as when, some months ago, one in this city stated in an editorial that it was out of the line of an editor's work to look up references and all manner of things for its numerous correspondents, and suggested that they devote ten minutes to writing to the library in Washington, offering a reasonable compensation, when it was probable they would get the information they desired. The number of communications which he received the next few weeks, asking for information on special subjects, was overwhelming. It was not in the line of duty of the librarian there to attend to such matters, yet with the aid of three resident physicians, who volunteered their services, the information sought for by the correspondents was given for moderate compensation. Every large medical library must be prepared to meet just such emergencies, and an able corps of assistants was required.

The speaker then referred to the labor involved in getting out the "Index Medicus," a publication which Dr. Andrews had said he looked upon with horror. The speaker thought of it with horror also, but without it what hope could there be, eighty years hence, in attempting to look up matter published to-day?

In concluding, the speaker said he knew it was due to the energy, the tact, and the perseverance of a very few men, members of the Academy, particularly the last three presidents, that success in obtaining this new building had been due, and to them was owed a debt of gratitude by the medical profession all over the world.

Congratulations from Philadelphia.—The PRESIDENT introduced Dr. Weir Mitchell as "the poet, novelist, and distinguished physician."

DR. MITCHELL, on rising, said it would seem his friend Dr. Loomis had prepared his audience for a poem, a novel, and a dose of medicine equally. However, he did not intend to administer any of the three on this occasion. He was himself an honorary member of the Academy, and, therefore, did not come as an entire stranger, but to share in the congratulations of his fellow-fellows, and also to express as a citizen of a

neighboring city warmest interest in the welfare of the Academy. He was reminded, on inquiring for a book in the library, of a visit which he once made to the French Academy in Paris, where he desired to find a certain volume which he knew to be among their accumulated riches. He was utterly unable, however, to find it. This great and learned Academy was very badly housed, and without a catalogue for the best library in the world. When asked why they did not have one, he was told that they were waiting for the government to put up a new building. He was happy to say that things were done differently in this country.

The speaker likened the medical profession to a great guild, and related how, when a stranger in Germany, he was taken sick and was doctored by an unknown physician who, on learning accidentally that his patient was also a physician, refused absolutely to take anything for his services, saying that the year before he had himself been taken care of many weeks while ill in St. Petersburg by a physician and a stranger who declined any compensation. He added: "You, sir, will pay this fee to some other man whom you will take care of in your far country across the sea."

The speaker would say further, that this singular guild possessed a code of morals which was old when Christianity was born, by which we had abided faithfully ever since. It included honor, chastity, brotherhood, and the largest charity. Regarding charity, he added that it had a striking illustration in the fact that men who had attained the highest fame in their profession continued to give from an hour to three hours three or more days of the week to the treatment of the poor after a time when they could hope to reap any reward whatever from such services. This charity in the profession he thought was not fully appreciated by the public, else they would be more generous in their assistance in building halls and libraries.

Dr. Mitchell then referred to the foundation and development of the College of Physicians of Philadelphia, which had the second largest medical library in this country. A library was never large enough as long as a man on going to it could not find what he wanted. A layman had once asked him, why so many books, when most of them contained only matter which had ceased to be of practical use. His reply was that a library was a great museum of facts; it contained matter which must be quoted or referred to by all who wished to write a scientific paper. Let them cease to found libraries and there would soon be a degradation, reducing the profession of medicine to the basis of a useful trade in nostrums.

Congratulations from Boston.—Dr. Reginald H. Fitz, in expressing congratulations from Boston, referred to a branch which might usefully be added to the library of the Academy, namely, a nurse's bureau or directory, like the Nurse's Home, a branch of the academy in Boston which had responded to numerous calls the past year.

The President read letters received from L. L. Seaman, Grover Cleveland, Henry I. Bowditch, N. S. Davis, W. H. Welch, and others.

Dr. Oliver Wendell Holmes wrote: "Academies have been too often thought of as places of honorable retirement, and dignity, and ease; roosts where emeritus professors and effete men of letters, once cocks of the walk, could sit in quiet roost while the fighting, the clucking, and the crowing were going on beneath them. No doubt, to be a member of the French Academy—one of the 'forty immortals'—is an honor worth striving for, in spite of Piron's epigram. But the academy which fulfils its true function is a true working body. It deals with living subjects; it handles unsettled questions; it sets tasks for its members, and furnishes, so far as it can, the appliances required for their prosecution; it offers rewards for meritorious performances, and sits in judgment on the efforts of aspirants for distinction. It furnishes the nearest approach we can expect to a fixed standard of excellence by which the work of new hands and the new work of old hands can be judged. It is a barrier, a breakwater against the rush of false pretensions which are constantly attempting to find their way into public confidence. Nowhere is such a defence more needed than in the sciences and arts which deal with the health of the community. The public is so ready, so eager to be deceived, and the traders in deception are so willing, so hungry to deceive those who will listen to them, that it needs a solid wall of resistance, a close, united phalanx of men of recognized sense, knowledge, and character to stand against them.

"The various forms of what I will venture to christen as pseudopathy and pseudotherapy—though they are known to the public by other names—can never loosen the hold of the intelligent thorough-bred physician on the enlightened members of society so long as the best heads in the profession are banded together in a noble institution like this academy. Only let it ever remain steadfast, unmovable against the recognition of any such pretenders who have no more business in our associations than the astrologist in our observatories or the alchemist in our laboratories.

"We look to this great and able body of men to guard the sacred avenues to the temple of science against all worshippers of idols. The medical profession will always have to fight against the claims of wrong-headed and too-often dishonest individuals and 'schools,' as they call themselves. A fraction of every community will always run after false prophets. There are a certain number of squinting brains, as there are of squinting eyes among every thousand of any population. There will always be a corresponding number of persons calling themselves physicians, ready to make a living out of them. Long may it be before the wholesome barriers are weakened that separate the thoroughbred and truly scientific practitioner from the plausible pretender with his pseudopathy and his pseudotherapy! We trust it will always be enough for a physician to be able to say, 'I am a member of the New York Academy of Medicine.'"

MEDICAL AND CHIRURGICAL STATE FACULTY OF MARYLAND.

Semi-annual Meeting, held at Cambridge, Md., November 11 and 12, 1890.

T. A. Ashby, M.D., President, in the Chair.

Dr. A. H. Bayley, of Cambridge, delivered the address of welcome.

The President's Address.—Dr. T. A. Ashby, after hastily reviewing the early history of the Faculty, its power, its control of the medical profession in this State, and its high authority, spoke of the causes which led to shrinkage of its membership and its loss of authority over the profession. The meetings had always been held in Baltimore. This made it a local society. These semi-annual meetings were started to interest the county members, the fees were reduced, and a large accession of members was the result. The Medical Practice Act was vetoed by the Governor, who was influenced by unprincipled politicians. This was a direct insult to the respectable members of the medical profession of Maryland. Physicians have no lien on an estate, no preference in court. The profession of this State should organize in order to achieve success. This can only be done by this Faculty. To this end local societies should be encouraged in all the counties of the State. Since last year over one hundred members have been added to the Society and the prospects are most encouraging.

Simultaneous Distal Ligation of the Right Common Carotid and Right Subclavian Artery for Supposed Innominate Aneurism. Recovery from the Operation.—Dr. R. Winslow then read a paper on this subject. A dissipated woman had five miscarriages. There was pulsation at the root of right side of the neck at the sterno-

clavicular articulation. She was put on low diet, and given iodide of potash, ten grains. Effect not being good, an operation was performed and the subclavian and innominate arteries were ligated at their distal ends. She was kept quiet for some time, and now seems to be well. In such cases, if the aneurism shows no tendency to break, or cause great inconvenience, try postural treatment and the iodides, and postpone operation. He then gave some statistics of similar operations, and the number of aneurisms in age and sex. His operation is not dangerous when done antiseptically, and with an absorbable ligature.

In the discussion which followed DR. R. W. JOHNSON thought in 1871 very few antiseptic operations were performed, and even now surgeons do not always operate antiseptically. It is not a point of election whether you do a distal or a proximal ligation. The strong pulsations of the heart are apt to break through the weakened arterial walls. He also thought that the absorbable ligature was by far the best.

DR. WINSLOW said that most men mentioned were those who operated since antisepsis was introduced, and it was fair to presume that they used it.

Use of Electrolysis in Stricture of the Rectum.—DR. G. T. EARLE then read a paper on this subject. The definition of electrolysis should be exact. A good battery and a reliable milliampèremeter are both indispensable. A Leclanché battery of from thirty to fifty cells is sufficient. A salt solution on the skin increases the electrolytic action. He related several cases in which he used electrodes, gradually increasing in size, and in suspicion of syphilis giving the iodide of potash.

DR. WINSLOW asked if these cases had been under observation long. The cure cannot be maintained too soon after the operation.

DR. W. S. GARDNER referred to one case noted in which an electrode no larger than a match could be introduced, while after a short time Dr. Earle claimed to introduce an electrode one inch in diameter. Was this electrolytic action or simply dilatation?

DR. EARLE said that one case that was operated on two years ago was practically well now. As for the electrode, he said that often an electrode could not be introduced at first, and after the current was turned on it went in easily.

DR. W. P. CHUNN referred to one of the cases mentioned in which Dr. Earle said there was a neoplasm in Douglas's cul-de-sac. This disappeared after treatment. Did he think it was a growth removed by the electricity?

DR. PRESTON said he had not used electricity in this connection, but only in facial blemishes, etc. He thought the idea was only to decompose tissue by a weak current, and not to cauterize it by a strong current as Dr. Earle seemed to do. Some currents are too high.

DR. EARLE said, in reply to Dr. Chunn, that it was not a myoma, but simply an infiltration of tissue around the rectal walls. In reply to Dr. Preston, he said his experience with both weak and strong currents in these cases was that the strong current was decidedly better. These currents do not produce cauterization.

Some Observations on Fibroma of the Nose and Nasopharynx, With a Report of three Cases.—DR. I. K. MERRICK then read a paper on this subject. After defining fibroma and observing that the cause was not evident, in that the negro, who was subject to uterine fibroids, never had nasal fibroma, he drew up a general sketch of the diagnosis and treatment, and then related at length the three cases.

Post-Nasal Obstruction in Children.—DR. JOHN N. MACKENZIE then read a paper on this subject. This is a subject of the utmost importance. It is wonderful that only in the past fifteen years it has been studied. Meyer, of Copenhagen, was the first to introduce it in 1875. He called it adenoid growth of the naso-pharynx. The adonæ-adenoma of the vault of the pharnyx is the most common cause. It is generally said that post-nasal obstruction is incompatible with viability of the fœtus. It is most common in children from the fourth to the fifth month. Pliny spoke of it. It grows from the vault of the pharynx as a mass of adenoid tissue, called by the Germans the tissue Luschka, although discovered by Schneider. It begins by a proliferation, then small tumors appear, which may hang down in the pharynx like stalactites or bunches of grapes. The papillomatous form of pharyngeal growth is more frequently met with in this part of the country, while in patients from the West and Lake regions it presents the greatest varieties of growth. In Boston the stalactite variety preponderates. In England he found this very common. The diagnosis is sufficiently easy. It may be confused with a fibroma at the vault of the pharynx, but the treatment is the same. Those who do not make the diagnosis with the rhinoscopic mirror may use the finger. It is like touching an earthworm, and if blood is on the finger when withdrawn, those two facts will confirm the diagnosis. He uses the forceps which bear his name. When a child is brought to him with nasal obstruction or with symptoms of non suppurative otitis media, he introduces these forceps without making a diagnosis and rarely failed to bring away the growth. These growths have a great effect on the child who breathes through his nose; his nose becomes flattened and he has a frog face. This facial expression is characteristic. Meyer, of Copenhagen, uses a "ringomesser," or guillotine-knife, introduced through the nose. The best method seems to be the forceps. As a rule he does not use anæsthetics. Occasionally the hemorrhage is very severe.

DR. B. W. GOLDSBOROUGH, in referring to Dr. Merrick's paper, said he had seen one of the patients and she was well.

DR. WILMER BRINTON asked what was the smallest child operated on by Dr. Mackenzie.

DR. MACKENZIE said he did it to those in arms, three or four months. In referring Dr. Merrick's paper, he said the instrument was apt to break, as it had done once in his case. He said he did the operation every day, and at the Johns Hopkins Hospital, in one month, he did it one hundred and seventy times.

DR. S. K. MERRICK said, he used Mackenzie's forceps. In the cases which he could not reach with the forceps, he used his fingers with success.

Prolapse of the Funis.—Dr. Wilmer Brinton read a paper on this subject, in which he related four cases which occurred in a thousand of his.

DR. W. P. CHUNN asked what the hemorrhage was from in Dr. Brinton's cases.

DR. B. W. GOLDBOROUGH said he had a case of this kind. He tried to stop the hemorrhage in vain. Everything failed until he applied turpentine to the fundus of the uterus, and all bleeding stopped.

DR. BRINTON said many people had never seen a case like the one he related. He had seen four, and in one he applied the forceps, and the hemorrhage came from the cervix. He kept tampons on for several hours, and gave ergot. He feels now that the blood does not come from the interior of the uterus. It should be decided what course shall be followed, the very minute the funis presents.

DR. W. S. GARDNER said such cases were very difficult to treat, and needed prompt attention.

Profound Anæmia.—DR. I. C. CLARK, of Federalsburgh, presented a case of profound anæmia. He brought the case for diagnosis. The patient had been an invalid for eight years, and had been under his treatment for the past year without much sign of improvement. The history is very imperfect. His countenance is poor, sight very bad, he complains of muscular weakness and sick stomach, nausea, and occasional vomiting, has a poor appetite, and bowels regular. There has been no improvement for eight years, no better, no worse. He is pale, urine contains no albumin.

Dr. William Osler examined this case, and suggested that it was profound anæmia, due to trouble in the large intestine. Such cases often have these retinal changes. The patient was not much emaciated. In these cases iron is not good, but some form of arsenic is better. Cases of pernicious anæmia often fail to improve under iron, and recover under full doses of arsenic.

The Relation of Albuminuria to Puerperal Eclampsia.—Dr. W. S. Gardner then read a paper on this subject, in which he gave the result of an examination of a large number of cases at the Maryland Maternité. Heat and nitric acid were used. His conclusions were: 1. The presence of albumin in the urine of a pregnant woman is not sufficient cause upon which to base a prognosis of probable eclampsia. 2. The failure to find albumin in the urine of a pregnant woman is no evidence of the absence, or at least of the continuance of the absence, of the condition that gives rise to puerperal convulsions. 3. Albumin is so frequently found in considerable quantities in the urine of patients immediately after the appearance of puerperal convulsions that we are justified in making the statement that the convulsions are the probable cause of albuminuria.

Dr. Brinton was much pleased with this paper. He thought if we could collect a large number of cases, much more than presented in this paper, we should be warranted in drawing conclusions as he has done. We cannot always look to the kidney lesion as the cause of death.

Dr. G. J. Preston thought that some lesion of the central nervous system might cause the trouble.

Dr. Osler said that in Montreal he had made the autopsies for ten years, and that in not a single instance were the kidneys in such cases found normal, except one case, which showed an immense cranial hemorrhage, the clot extending from the third to the fourth ventricle of the brain.

Dr. Gardner thinks this experience rather exceptional.

Dr. Preston asked if the women were systematically examined in each instance.

Dr. Gardner said that the urine was examined in a routine manner in each case, and was done with average care. The object of these urinary examinations was to see if the prognosis of eclampsia could be made before pregnancy.

The Surgical Treatment of Non-pyæmic Abscess of the Liver.—Dr. R. W. Johnson then read a paper on this subject, with a report of a case, in which he principally advocated aspiration even in the smallest abscesses, as opposed to incision. The aspirator should be used in diagnosis.

Dr. R. Winslow said that such cases were not so infrequent in this climate as many supposed. All cases he had seen were Germans. He does not agree with Dr. Johnson in the treatment with the aspirator. Small abscesses may be cured by the aspirator. An abscess of the liver should never be allowed to break. It may break inward and cause death.

Dr. Wm. Osler said he had seen more abscesses of the liver in the sixteen months that he had been in Baltimore than in five years in Philadelphia. Some abscesses will not get well by aspiration; often they are so low down in the liver that they cannot be found, except by incision. Very often this is due to a multiple pyelo-nephritis. He related a case in which the diagnosis was only made by a laparotomy.

Dr. Preston also related a case of hepatic abscess, occurring in his practice, and then Dr. Johnson closed the discussion.

Differential Diagnosis in Treatment of Peripheral Neuritis.—Dr. George J. Preston read a paper on this subject. He gave the pathology of the disease, its manner of invasion, the symptoms, and said it was often confounded with poliomyelitis in the adult. He related a number of cases occurring in his practice. He thought that it was of more common occurrence than was usually supposed.

Dr. Wm. Osler agreed with Dr. Preston in saying that peripheral neuritis was more common than usually supposed. There are often mistakes in the diagnosis, unfortunately. The gait is very characteristic. It is the "steppage" of the French, in which the foot is lifted high to get the toes raised off the ground. This is so characteristic that the diagnosis can be made from it alone. He had seen it after alcoholism, arsenical poisoning, and typhoid fever. It is so much like locomotor ataxia that an unfavorable prognosis is apt to be made. He referred to a case in his own practice in which neuritis was mistaken for ataxia.

Pyoktanin in Eye Diseases.—Dr. H. Harlan then read a paper on this subject. He was led to use pyoktanin from its unusual claims, as given in Merck's *Bulletin*. He thought it impossible for it to do so much. He had given it a very thorough trial, and was more than pleased with it. In some cases nitrate of silver was better.

Injurious Use of Remedies in Eye and Ear Diseases.—Dr. H. Woods then read a paper on this subject, in which he discussed the use of wrong remedies, or strong remedies producing harm. Much of this was done by the general practitioner, who did not want to turn a case over to a specialist.

Dr. Harlan said he had seen such cases as related by Dr. Woods.

Remarks on Vaginal Examinations.—Dr. Wm. P. Chunn read a paper on this subject, which gave some very useful hints, and was very well received by the Society.

Dr. Charles P. Noble, of Philadelphia, thought that the touch was often better than the speculum, except in cases of pelvic tumors, malpositions, etc. He spoke of the methods of examination at the patient's home, etc.

Immunity and Protection from Disease.—Dr. Wm. B. Canfield read a paper on this subject, in which he reviewed the latest theories thereon.

After the election of new members and routine business, the Society adjourned.

Correspondence.

OUR LONDON LETTER.

(From our Special Correspondent.)

THE ANNUAL MEETING AT THE COLLEGE OF SURGEONS—A SUPPOSED CASE OF INDIGENOUS LEPROSY—THE RELATIONSHIP OF THE EYE TO THE CARDIO-VASCULAR SYSTEM—ON ANÆSTHETICS.

London, November 7, 1890.

The annual meeting at the College of Surgeons took place yesterday, and passed off in much the same manner as previous gatherings of the kind, though it was perhaps more harmonious than some of those which have preceded it. As was the case last year, the President—on this occasion, Mr. Bryant—briefly addressed the fellows and members present. After touching on some of the subjects dealt with in the report of the Council, Mr. Bryant dwelt upon the scientific aim of the College. He said he should omit all controversial subjects, but he exhorted his hearers to remember that their College was dedicated to science of the higher kind, and not to politics; political thought, ways, and action were not always constructive. Mr. Lawson Tait then moved a resolution to the effect that immediate steps should be taken to forward the introduction in Parliament of a bill to amend the constitution of the College, and expressing regret that the Council had as yet shown no disposition to meet the wishes of the fellows and members, in spite of their repeated protests. This resolution was virtually a repetition of that carried at last year's meeting, and it was carried with only six dissentients. In the course of the discussion upon it, Sir Spencer Wells spoke and, while deprecating exciting meetings, suggested that a deputation to the Council was

a more likely means of influencing them. This appeared like holding out a flag of truce on the part of the Council, but any hopes to this effect which the audience might have entertained were speedily dashed to the ground when the President rose and remarked that, although they were extremely pleased to hear Sir Spencer Wells' opinion on the points under discussion, he desired to say that it was only Sir Spencer Wells' opinion, and his hearers must not run away with the idea that it was the opinion of the Council.

At the last meeting of the Pathological Society, Dr. P. S. Abraham narrated a case which had been recently brought under his observation as a supposed example of indigenous leprosy. The patient was a woman of sixty-nine who was greatly emaciated, and whose left arm exhibited a large fungating growth at the region of the elbow. The arm above the elbow was much swollen and œdematous; the skin of the forearm and hand was thick and brawny, scarred in several places, and mottled with dark-brown discoloration. The fingers were flexed; some of the terminal phalanges were gangrenous, and the nails overgrown and clawlike. The terminal phalanx of the little finger had been spontaneously amputated by ulceration. There was some power of movement of the fingers. No well-marked anæsthesia. The rest of the body showed no signs of disease. The patient stated that about thirty years ago she noticed a bean-like growth on the forearm, the surrounding skin became scaly and thick, and this condition gradually extended toward the hand and elbow. The swelling of the limb, however, was comparatively recent, and the cauliflower mass above the elbow had only existed two months. The patient died, and the arm was then examined. No bacilli of leprosy were found. A section of the tumor at the elbow showed it to be a rapidly proliferating epitheliomatous neoplasm. Within the cell-nests, and also between the cells, were some large protoplasmic masses which recalled psorosperms. Sections from a patch on the skin of the arm also indicated commencing epithelioma, as did those taken from the separated ungual phalanx. In some of these, beneath the epidermic increscences, were giant cells surrounded by granulomatous tissue such as could be observed in lupus. This supported Mr. Hutchinson's suggestion that the disease possibly commenced as a superficial lupoid ulceration, scarring over at the spot first attacked, and spreading at the edge, and that the epithelioma had been a secondary development. Dr. Abraham remarked that it was no doubt in great measure owing to the clawed appearance of the hand, the spontaneous loss of one of the phalanges, and the long-continued desquamative condition of the limb, that the idea arose of the case being one of leprosy.

The reading of Dr. Abraham's communication was followed by a short discussion, in the course of which Dr. Colcott Fox remarked that the case appeared to him to be one of tuberculosis with subsequent epithelioma. The lesions of leprosy, he said, were generalized and bilateral. Epithelioma was known to be prone to develop in old lupus scars. Dr. Wilks thought leprosy could not be excluded from the indigenous diseases of this country; he remembered a case which Dr. Addison had described as spurious leprosy, but Sir William Gull had subsequently described it as true leprosy. Mr. Roger Williams said he had never seen any cases of cutaneous epitheliomata like the present specimen.

Myopia and hypermetropia are customarily regarded as being merely ocular defects, and are mostly treated in accordance with this view. At the Harveian Society yesterday evening, however, I heard a very different aspect of the matter presented by Dr. Rayner D. Batten, in a paper of some length. Dr. Batten urged that the errors of refraction just named are not mere local disorders confined to the eye, but that they are the local expressions of changes which involve other organs also. He specially drew attention to the relationship between the eye and the cardio-vascular system, and mentioned some interesting facts bearing on the relationship in question. Thus he said he had never seen a case of optic neuritis in a myope, and, after considerable research, had only been able to find three cases observed by others. He had noticed that atropine given to a hypermetropic patient slowed the pulse instead of quickening it; he attributed this result to its sedative action on the eye, thus removing irritation from the cardio-vascular system. In the operation for internal strabismus severe cardiac depression had been observed to ensue upon the division of the internal rectus—pointing to some association of that muscle with the cardio-vascular system. The cardiac symptoms had been noted to occur either at the moment of dividing the muscle, or when it was placed on the stretch just previous to dividing it.

Dr. Batten related some cases in which errors of refraction were accompanied by cardio-vascular symptoms which were relieved on correcting the refractive errors. He also sketched out, and contrasted, the bodily characteristics of a typical "myope" and "hypermetrope," respectively, and especially in reference to the cardio-vascular system, on which subject he had made numerous observations. He regarded hypermetropia as characteristic of imperfect development; myopia as an example of the opposite. Quoting the remark that a myope did not take exercise because he could not see his way about, he said he would rather say that he did not take exercise because the state of his cardio-vascular system was not such as to allow him to do so with comfort to himself. Dr. Batten urged that to correct (by suitable glasses) the errors of refraction in myopic and hypermetropic patients could not be regarded as constituting the whole of the treatment which was desirable, but he did not yet feel able to give definite advice on this subject. We needed to know more about the bodily changes in myopes and hypermetropes, and the diseases to which they were respectively liable.

At the same meeting of the society Mr. Henry Davis read a paper on anæsthetics. Mr. Davis expressed a strong preference for ether in the majority of cases. He first used nitrous oxide to produce anæsthesia, and then gave ether by means of Ormsby's inhaler. He sometimes gave a little chloroform subsequently. Mr. Davis remarked that the experience of Scotch surgeons had prejudiced them strongly in favor of chloroform, but the mortality with it was much higher than with ether. In the discussion on Mr. Davis' paper a pretty unanimous opinion was expressed in favor of ether, with the exceptions that chloroform might be given to young children, or in cases where bronchial trouble existed. One gentleman referred to the A. C. E. mixture, but this was condemned by subsequent speakers. One gentleman said he had been told by American physicians visiting this country that we paid much more attention to the *technique* of anæsthesia than was the case in America, and remarked that he felt much complimented at being told we could do anything better in this country than they could in America. I can, I think, forestall one comment which will rise to the lips of many of your readers on reading this, viz., that in America ether is so generally regarded as a safe anæsthetic, that special attention to the details of its administration is not looked upon as necessary.

THE QUESTION OF PRIORITY—THE POLYCLINIC RESTS ITS CASE.

To the Editor of the Medical Record.

Sir: In your issue of November 15th, Dr. D. B. St. John Roosa writes: "Seven members of the Faculty of the University of the City of New York resigned their positions at that institution on April 4, 1882, for the purpose of founding a Post-Graduate Medical School."

We, the undersigned, during the winter of 1881–82, organized and accepted professorships in the New York

Polyclinic, and opened this school in November, 1882. From the incipiency of the organization it was the expressed intention of its founders to conduct it as a clinical school for practitioners of medicine and surgery.

(Signed) JOHN A. WYETH, M.D.
VIRGIL P. GIBNEY, M.D.
E. GRUENING, M.D.
W. GILL WYLIE, M.D.
LANDON CARTER GRAY, M.D.
A. R. ROBINSON, M.D.

Were they living, the names of Dr. Louis Elsberg and Dr. Richard Brandeis would also be subscribed. The organization of the New York Polyclinic, and its plan of study as carried into practice, were effected, uninfluenced by any similar effort by any other body of men, and while the gentlemen who later on "resigned their positions to organize the New York Post-Graduate School" were teaching in an undergraduate college. The Polyclinic, by the above unimpeachable evidence, was the *pioneer Post-Graduate Medical School in the United States.* On this evidence it rests its case.

Yours truly,
JOHN A. WYETH, M.D.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 16 to November 22, 1890.

MOSELEY, EDWARD B., Captain and Assistant Surgeon. Granted leave of absence for one month. S. O. 100, Department of Texas, November 17, 1890.

BURTON, HENRY G., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, granted leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea. S. O. 269, par. 9, Headquarters of the Army, A. G. O., Washington, D. C., November 17, 1890.

PHILLIPS, JOHN L., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, relieved from further duty at Fort Crawford, Col., to take effect on his relinquishing the unexpired portion of his present leave of absence, and will report in person to the commanding officer at Camp Guthrie, Oklahoma Ter., for duty at that station, reporting by letter to the Commanding General, Department of the Missouri. S. O. 269, par. 7, A. G. O., Washington, D. C., November 17, 1890.

JOHNSON, HENRY, Captain and Medical Storekeeper. By direction of the Acting Secretary of War, granted leave of absence from January 1, to March 24, 1891, inclusive, with permission to go beyond sea. S. O. 268, par. 18, A. G. O., Washington, D. C., November 15, 1890.

GANDY, CHARLES M., Captain and Assistant Surgeon, Fort Clark, Tex. By direction of the Acting Secretary of War, granted leave of absence for three months. S. O. 266, par. 10, Headquarters of the Army, A. G. O., Washington, D. C., November 13, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 22, 1890.

AYERS, J. G., Surgeon. Ordered to the Receiving-ship Wabash.

EVANS, SHELDON GUTHRIE. Commissioned an assistant surgeon in the U. S. Navy.

BATES, N. L., Medical Director. Ordered as President of Naval Medical Examining Board, at Mare Island, Cal.

MOORE, A. M., Surgeon. Ordered as member of Naval Medical Examining Board, at Mare Island, Cal.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 22, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	25	7
Scarlet fever	65	10
Cerebro-spinal meningitis	3	3
Measles	141	13
Diphtheria	97	29
Small-pox	1	0
Varicella	5	0
Pertussis	2	0

Value of the Diazo Reaction.—Dr. L. Rütimeyer, who has made between two and three thousand trials of the so-called diazo reaction of urine from 260 patients, declares his belief that it is a very useful guide both in diagnosis and prognosis, being especially valuable in phthisis and typhoid fever. In phthisis he regards it as denoting absorption of caseous matter, and when it is persistent as implying rapid mischief and an early and fatal termination. In cases of general miliary tuberculosis it was always obtained. The number of typhoid cases which were examined was 1,130, of which 87 were fatal. The presence of the reaction is very constant, and it can generally be obtained early. It does not seem to be present in pyrexial intestinal catarrh. If the reaction is not obtained during the first or second week the case, if one of typhoid at all, must be a very slight one. It cannot, however, be affirmed that a well-marked and constant diazo reaction is any sign of a fatal termination, as with phthisis. The reaction is never given by the urine of healthy persons, and was not observed in hysteria, myelitis, hepatitis, diabetes, cystitis, pyelonephritis, benign ovarian cysts, cholelithiasis with jaundice, gastro-abdominal catarrh with fever, or in a number of surgical diseases. It was occasionally present in cancer of the stomach and œsophagus, chronic nephritis, caries of bone, cold abscesses, pyæmia, scarlatina, pleurisy with serous effusion, tubercular meningitis, and heart diseases. It was more frequently obtained in croupous pneumonia, actinomycosis of the lung, and malignant diseases of the peritoneum. The method of testing is very simple, two special solutions only being required, a concentrated solution of sulphanilic acid in water and a solution of nitrite of sodium of the strength of 1 in 200. The actual test solution is prepared immediately before use by mixing 200 parts of the sulphanilic acid solution with 10 of pure hydrochloric acid and 6 of the nitrite of sodium solution. This mixture is added to an equal volume of the urine, and sufficient ammonia added to render the whole alkaline. A bright or carmine red coloration denotes the diazo reaction. After from twelve to thirty-six hours a deposit occurs, the upper part of which is green or black. —*The Lancet.*

Dentistry Among the Ancients.—A physician in Rome recently brought to light some interesting specimens of ancient dentistry and artificial teeth in skulls from different Etruscan tombs, dating as far back as the sixth century before Christ.

Carbolic Acid Spray in the Treatment of Hemorrhoids.—Verneuil has obtained very satisfactory results in the treatment of hemorrhoids by spraying the tumors with a spray of carbolic acid. This causes the congestion to disappear rapidly, and also relieves the pain in a very short period of time. The method is not always curative, but it will at least reduce the inflammation to such an extent that it will be possible to examine the parts carefully, and institute such other treatment as may be found necessary.

The Destiny of Congenitally Syphilitic Children.—Hochsinger has followed for some years the careers of 265 children affected with congenital syphilis, and has found that over a third suffered relapses, more than seventy per cent. of these relapses occurring in the first year of life. Among these children, 63 were kept in view for over four years, some for twenty years. Mercurial treatment was adopted in all the cases between the second and the fifteenth month after birth. The 63 cases are thus divided: 1. Ten showed fresh syphilitic appearances within the time specified (over four years), the oldest of these was twelve years of age. 2. Another group comprises 18 who remained healthy in every respect. 3. Finally, the remaining 25 showed no evident signs of syphilis, but some of them have the visible marks of a hereditary infectious disease (small, sunken nose, radiating cicatrices, etc.), and others were affected by a general or undetermined morbid condition (anæmia, debility, etc.). None of the cases showed any direct connection between syphilis and scrofula. As to the forms of the relapses, during the three first years of life the cases showed almost exclusively condylomatous eruptions of the skin and mucous membranes; during the fourth and fifth years gummatous ulcerations or bone disease as well as condylomata; above this age only gummatous changes. Lues laryngis was repeatedly seen between the ages of two and four years, and two of the children (in the third year of life) had hydrocephalus. Severe gummatous destruction was only once seen, in a child eight years of age; in this case the first treatment had begun late (at the age of fifteen months), and had not been thorough. In conclusion, the author thinks the prognosis of congenital syphilis not unfavorable, but largely dependent on the treatment (primary). The earlier mercurial treatment is begun, and the more carefully it is followed out, so much the more certain is a definite cure without relapses. The treatment should continue at least a fortnight after all syphilitic symptoms have ceased. Lingering syphilis in the child's system is shown in another way than by relapses, viz., by lowering the resistance against intercurrent diseases.—*Medical Recorder.*

Phenacetine in Rheumatism.—Dr. Rifat, writing in the *Bulletin Général de Thérapeutique*, November 18, 1890, speaks very hopefully of the use of phenacetine in large doses in the treatment of acute rheumatism, and also of so-called gonorrhœal rheumatism. The remedy was given in doses of sixty to ninety grains a day, and succeeded in curing the disease after all the usual drugs had been tried and abandoned as useless. The number of cases was too small to warrant forming any positive conclusions, but the success in these few instances was so remarkable as to encourage the author to renewed trials.

A Faster in the Seventeenth Century.—Now that Succi, the Italian fasting man, is attracting universal attention, it may be interesting to recall a case of total abstinence from food for forty days, which occurred more than two centuries ago. In the winter of 1684, a certain Isaac Henry Stiphont, of Haarlem, was confined in a lunatic asylum. At this date he was forty years old, and although born of an insane mother had learned a handicraft, married, and conducted himself like other people, until, in the previous autumn, he quarrelled with his brother-in-law, and in a scuffle accidentally broke the man's leg, when the fear of falling into the hands of justice drove him mad. He had been in the asylum a few months when he suddenly took it into his head that he was the Messiah, and resolved to fast forty days and forty nights. Accordingly, on December 6th, he began to abstain from all food, and continued to do so until January 15, 1685. During all this time he took no sustenance whatever; nothing passed his lips but an occasional sip of water for the purpose of cleansing his mouth. If a little broth or brandy was put into the water he discovered the addition instantly, and thrust the cup away untasted. Every effort was made to persuade or compel him to take food. It was even sought to influence him by the pretended apparition of an angel, who brought to him the express command of God that he should eat. He does not appear to have doubted the reality of the visitation, but continued to declare that it was the will of his Heavenly Father that he should fast forty days and forty nights. Stiphont had been a smoker before the commencement of his fast, and continued the daily use of tobacco during the whole time of his abstinence from food. The case had excited great interest, and when the fast was ended the doctors desired the man to take some medicine to stimulate the action of the stomach. He refused, and would only take fish and a special soup to be prepared by his wife. So singular an occurrence made a great noise at the time. Some people ascribed it to a miracle, others to the combined effect of madness and tobacco. A madman, it was said, could endure a temperature that froze his companions, so if insanity made a man impervious to cold, why should it not render him insensible to hunger? Also that the wild hordes of Canada were known, during times of scarcity, to exist for weeks upon water and tobacco, so why should not Stiphont, the civilized, do the same by the help of his madness?—*The Hospital.*

Mr. Thomas Jennings, "the fat man of Tasmania," died on April 1st, at the age of sixty-six. He was 5 feet 10 inches in height, and weighed 561 pounds. His chest measured 68 inches, waist 82, and calf 21½. He was a native of Stream Head, Alberton, Yorkshire.

The Prevention of Conception.—The Detroit Medical and Literary Association recently discussed the question as to the justifiability of preventing conception. Almost every speaker contended that the practice was proper and right, and many said that prevention could be accomplished mechanically without injury to either the man or the woman. There were apparently but few members of the society who opposed this view, or at any rate there were but few who expressed their opposition.

A Point of Comfort.—A small matter which adds greatly to the patient's comfort is the wiping of the lips with the napkin or the handkerchief after liquids or food. It needs some delicacy of perception to do this service acceptably, but when the patient has once known the relief of being anticipated in these little motions he will subsequently notice and resent any forgetfulness or awkwardness in their performance. Remember always that in saving your patient exertion you probably save his strength.—*The Nightingale.*

Pigmentation of Pregnancy.—In general, pigmentation shows itself in pregnant women only upon the face in the form of a chloasma mask, and upon the abdomen along the linea alba. Tarnier, however, has observed a woman at term, who presented upon the chest, thighs, and abdomen disseminated spots of a diameter varying from a ten-cent piece to a quarter-dollar in size. The spots are brown and the intermediary skin paler than normal. The patient had experienced a similar dyschromia in a previous pregnancy, beginning as had this, and ending after delivery.—*Journal of Cutaneous and Venereal Diseases.*

Lacquer Poison.—In China, people, especially foreigners, are not infrequently poisoned by handling newly varnished furniture. The varnish employed is made from the sap of the poison sumach (*Rhus vernicifera*), a bush which in general appearance resembles quite closely the common sumach growing in New England. No effectual remedy has been discovered for this poison, but its severity, and often the intense itching, can be ameliorated by the use externally of lead and opium wash, and in addition of a liniment composed of ten drops of carbolic

acid and twenty of laudanum in an ounce of olive-oil. An important preventive measure, according to Dr. Whitney (*China Medical Missionary Journal*), in cases of newly varnished articles is, after they are well dried, to wipe thoroughly, once a day for two or three days, with a cloth wrung from hot water. This process seems to destroy the poisonous property of the dried varnish, perhaps because the volatile acid is evaporated by the moist heat.

A New Remedy for Phthisis.—In the *China Medical Missionary Journal* for March, 1890, Dr. Lyall writes that he was not long since called to attend a Chinese gentleman for hæmoptysis. The latter informed him that he had heard that human urine was good for consumption, and that for two months he had been taking a wineglassful of his own urine twice daily. He thought that he had put on a good deal of flesh and that his general health was better since he began the treatment.

Congenital Lock-Jaw.—At a recent meeting of the Orthopedic Section of the New York Academy of Medicine, Dr. R. H. Sayre presented a case of congenital trismus. No definite history could be obtained concerning the boy, except that he was five years of age, and that nothing unusual had been noticed about the jaw until a short time ago. The boy was quite intelligent, and no other joints were affected. The jaw appeared to be subluxated backward, and the deformity was presumably congenital. The recession of the jaw, and the apparent atrophy on both sides, added to the interest of the case. Dr. Sayre said that before adopting any operative measures, he would attempt to relieve the case by stretching, and for this purpose would employ a wedge-shaped instrument devised by Dr. L. W. Hubbard, and presented last year before the Society of the Alumni of Bellevue Hospital. It consisted of two plates of steel, fastened together by a separable hinge, and capable of being separated at the other end by turning a screw. Having partly separated the jaws of the instrument, a cork could be inserted between the plates near the hinge, and the action of the screw reversed, when the instrument would exert considerable pressure on the molar teeth.

A Model Nurse.—The editor of our bright little contemporary *Nightingale* has found a nearly perfect nurse in one of the hospitals in this city. After describing some of the preparations being made for the operation, she continues: "The 'operation nurse' was in the meantime vigorously scrubbing her hands and arms. When she turned toward me I noticed that she had on a plain, blue gingham dress. As she wore no pin, I had no further clue to the school of her graduation. The dress cleared the floor by two inches, and a white apron completely covered the skirt of the dress. I next noted that the nurse wore her hair short. Certainly if we all had the strength of mind to cut off our hair we would be, by so much, the better fitted for surgery and, indeed, for all sick-room work. This nurse can thoroughly wash her head every day, or twice or three times a day if she so desires. I next noticed the build of the nurse. She was not tall, but of a firm, compact frame, warranted not to give out. In fact, she officiated at three operations, holding the Sims speculum during two of them, and at the end showed no evidences of fatigue. A word about her arms and hands. Her sleeves were pushed well up above the elbows. Her finger-nails were smooth and clean. The hand was not a white hand. It was reddened by its activities. In a surgical sense, however, it was spotless. I noticed the way in which this nurse performed her duties, how she supplied those hot towels just when they were needed, how alert and noiseless she was, and, at the end of the operation, I watched her carefully counting her sponges. One was missing! I saw her peer here and there and rest not a second until that sponge had been accounted for. I said to myself: 'Here is a nurse who is a credit to us.' Had I a criticism to make, it would refer to a trace of coquetry in the neck arrangement of her dress. It might be added, however, that the nurse was young and pretty and—what could you expect?"

Deafness for High Notes.—Mr. Edwin Cowles, editor of the *Cleveland Leader*, who died last March, had a peculiar form of deafness. He never heard the sound of a bird's note, and until he grew to manhood he always thought the music of the bird was a poetical fiction. "You may fill the room with canary birds," he once said, "and they may all sing at once, and I would never hear a note, but I would hear the fluttering of their wings. I never heard the hissing sound in the human voice; consequently, not knowing of the existence of that sound, I grew up to manhood without ever making it in my speech. A portion of the consonants I never hear, yet I can hear all the vowels. About a quarter of the sounds in the human voice I never hear, and I have to watch the motion of the lips and be governed by the sense of the remarks in order to understand what is said to me. I have walked by the side of a policeman going home at night and seen him blow his whistle, and I never could hear it, although it could be heard by others half a mile away. I never heard the upper notes of the piano, violin, or other musical instruments, although I would hear all the lower notes."—*Cleveland Medical Gazette.*

Sand-bags a Convenience.—The sand-bag is invaluable in the sick room. Get some clean, fine sand, dry it thoroughly in a kettle on the stove. Make a bag about eight inches square of flannel, fill it with dry sand, sew the opening carefully, and cover the bag with cotton or linen. This will prevent the sand from sifting out, and will also enable you to heat the bag quickly by placing it in the oven or even on top of the stove. After once using this you will never again attempt to warm the feet or hands of a sick person with a bottle of hot water or a brick. The sand holds the heat a long time, and the bag can be tucked up to the back without hurting the invalid. It is a good plan to make two or three of the bags and keep them on hand ready for use at any time when needed.—*The Nightingale.*

Summer Drinks.—The *Medical Record* of Calcutta contains some interesting remarks upon the beneficial effects to be derived from non-alcoholic drinks in the height of summer. After remarking that the very bane of European existence in India lies in the habits of eating and drinking, physiological arguments are adduced to show that highly carbonized materials are very deleterious in hot climates. The custom of the Moguls, who for luxury have had no equal in Indian history, is referred to as offering a fitting example. Their drinks consisted of milk, sweetened waters, or sherbets, prepared from subacid fruits, such as lemons, tamarinds, pomegranates, etc., flavored with rose or Keora essences, date juice, numerous vegetable tisanes, and some infusions of glutinous seeds flavored with sugar and essential oils. These were often cooled with ice collected in pits, where it was stored during the winter months. The Oriental races, it is asserted, suffer from few of the diseases which are common to the copious meat-eating, wine-drinking Europeans. For a hot day, a light vegetable diet is recommended, with a spare quantity of meat food and an abundance of cooling, non-alcoholic drinks. Ice is regarded as a necessity, and coffee, tea, and cocoa are to take the place of whiskey-and-soda. The use of aërated waters, prepared from pure and wholesome ingredients, and the admixture in them of the numerous fruit flavorings which abound in the tropics, are regarded with favor, as likely to offer a lucrative source of income to persons engaged in such trade, while also giving the European community a very acceptable form of summer drinks.—*The Lancet.*

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 23.
Whole No. 1048.

NEW YORK, DECEMBER 6, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

THE RHEUMATIC AND GOUTY DIATHESIS AS MANIFESTED IN DISEASES OF THE THROAT.[1]

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NEW YORK.

IN choosing a title for the subject of my paper this evening no one more than I appreciates the difficulties which confront me. In the first place, the literature of the subject is barren in the extreme; in fact, I know of no treatise on this subject. Brief references in classical writers on gout and rheumatism to occasional local inflammations of the throat occurring in the course of these diseases may be found, but that is all. Even scattered articles on this subject are very infrequent.

Unquestionably there are numerous cases in which an acute attack of rheumatism is complicated by a well-marked attack of acute angina, pharyngitis, or laryngitis, but the true nature and significance of the seizure are at first ignored. The inflammatory condition of the throat is merely regarded as a case of ordinary sore-throat or cold, due to the same cause—possibly a wetting—which brought on the rheumatism. Later on, when the rheumatic attack is fully developed, the inflammation of the throat is passed over, or not closely observed, on account of the much greater importance of the joint affection. When we come to examine the matter further, we are forced to admit that there is much that is undetermined about the precise general condition with which we have to do, and in the local changes which appear to be connected with it. The constitutional state indicative of rheumatism and of gout in the throat is only denied by a small number of observers. There are many, however, who think of it in a vague manner who never really attribute much practical importance to it as a factor in the causation of throat disorders. When, however, attention has been directed closely to the influence of these constitutional dyscrasiæ it is no longer possible, in my judgment, to ignore them or diminish their great, though often latent, effect.

It is curious to notice in this connection how different the great foreign medical scholars regard diathesis in the causation of morbid action. The Germans believe many, if not all, throat affections are merely local conditions; the French recognize in numerous instances the underlying arthritism or herpetism. These two morbid expressions are included in one by Professor H. G. Piffard,[2] who unites them in the "rheumatic diathesis" and shows how far-reaching their effects are in the domain of dermatology.

Hardy[3] thus describes those who suffer from this constitutional condition, so far as the skin is concerned: "Their integument is habitually dry and perspiration is diminished. The skin is often the seat of lively itching, even in the absence of eruption. The appetite is generally well developed, and it is well known that the dartrous eat a much larger quantity of food than other patients in analogous conditions. Another important peculiarity is the extreme sensibility of the skin, and the facility with which it is influenced by the lightest and most fugitive impressions; sometimes great excitement, alcoholic excess, watching, use of coffee, of certain kinds of food; sometimes a local excitement, irritating frictions, or the application of a plaster, will give rise to an eruption, often ephemeral and not dartrous in character, but which reveals a particular predisposition of the economy and the existence of a latent vice which needs but a favorable occasion to manifest itself."

To this diathesis, as Piffard writes, Hardy ascribes eczema, lichen, psoriasis, and pityriasis. Now something not unlike this unquestionably exists for the mucous membrane lining the throat. There are individuals in whom the pharynx, fauces, and tonsils are unduly sensitive. The glands of these regions secrete excessively, or very little, upon the slightest pretext. They suffer from localized pains or abnormal sensitiveness in these regions, which have been named neuralgia, hyperæsthesia, paræsthesia, anæsthesia, etc. They are usually well in other respects—so far as can be observed—yet the slightest atmospheric changes, the most ordinary exposures, the smallest departures in diet from a rigid exclusivism, late hours or over-fatigue in any way, inhalations of bad air or a dust-laden atmosphere, will give rise to irritation, discomfort, or soreness of the throat. All this proves the underlying constitutional condition which is present and ever ready to show itself in a more accentuated manner. According to Isambert,[4] many of the cutaneous lesions, and especially the ordinary ones, like eczema, psoriasis, pityriasis, lichen, acne, etc., are accompanied by or alternated with pharyngeal and laryngeal inflammations.

We cannot, it is true, always make out clearly either the same pathological lesion or morphological expression in the throat as we have recognized on the skin. We must, however, be prepared to acknowledge the analogy which exists, and to see in it a fruitful idea for the study and correct interpretation of different forms of sore-throat. Is it possible to recognize in the appearances of the pharyngeal or laryngeal inflammations the nature of the diathesis which occasions them? In reply, we must admit that in many instances this is extremely difficult, not to say impossible. Thus Longstreth says: "The appearances presented by the throat are not characteristic, and dependence on the nature of the occurrence rests on antecedent and concomitant circumstances."[5] Frequently they present all the usual characters belonging to ordinary chronic catarrhal inflammations of the organ affected. They show, however, a disposition to last a much longer time, and also to return with renewed activity, quite frequently.

At times, also, the inflammatory affection of the throat ushers in the rheumatic disease of the joints, and begins in such a way that we may already suspect its nature, if we have met with these cases, by the symptoms described by the patient. A feeling of stiffness of the palate is complained of, which is especially noticeable in talking and in deglutition. This stiffness is apt to affect the muscles of the neck, so that turning the head or neck becomes difficult and painful; sharp pains may run into the

[1] Read before the New York Practitioners' Society, November 7, 1890.

[2] Diseases of the Skin, pp. 124–142.

[3] Leçons théoriques et pratiques sur les Maladies de la Peau, Paris, 1860. Cited by Piffard.

[1] Dartrous is used by Hardy as synonymous with herpetic. Bazin separates this condition into two principal ones, which he names dartre and arthritis.

[2] Annales des Maladies de l'Oreille et du Larynx, vol. i., p. 188 et seq.

[3] Rheumatic Gout and Some Allied Disorders, p. 135. New York, 1882.

eyes, forehead, or ears, if the inflammation extends in either of these directions, and fever may also be present. By and by, as the joint affection develops, the preceding symptoms may fade or disappear entirely. This rheumatic angina has been studied very completely by Lagoanère (1876), who shows that it rarely continues after the rheumatic attack has developed in the joints.

In the affection lately described by Ingals [1] as chronic rheumatic sore-throat, we may have "uncomfortable sensations of pain," with the absence of any distinct physical signs, and merely an existing rheumatic diathesis, but no constitutional symptoms present like fever or rapid pulse. Occasionally, however, there are signs of some value which can be seen with the eye, and which are somewhat characteristic of these constitutional inflammations. Instead of a laryngitis, for example, having a uniform and general redness, we remark that the inflammation is in patches here and there. These patches have different outlines. At times they are mere streaks across the long diameter of the true or false cords. Again they are found as if made with the strokes of a brush near the anterior and posterior commissures of the larynx. These appearances have been insisted upon by Isambert as far back as 1875.[2]

Later on in his paper on lithæmia in the upper air-passages Dr. F. W. Hinkel [3] alludes to a similar condition, which he thus describes: "A patchy congestion of the laryngeal face of the epiglottis, extending along the aryepiglottic folds and over the posterior surface of the ventricular bands."

In addition to this change it is not infrequent to find a marked velvety or slight papillary condition of the interarytenoid commissure, which has been regarded as almost characteristic of laryngeal phthisis. This statement is fortunately not correct, and in a moderate degree at least it is certainly often present in lithæmic conditions and perfectly amenable to judicious local and general medication. In my own experience I have not always found the condition of lithæmia evident in either class of cases. This may have arisen possibly from the fact that the urinary examinations were not made continuously, or with sufficient care or accuracy. Or what seems to me more probable, viz., that some of these cases were instances of incomplete gout and the urine did not reveal the conditions which we ordinarily attribute to lithæmia, because the excess of uric acid was retained in the system and not excreted. In the pharynx the appearances which lead us to suspect the diathetic nature of the disease are the following: The mucous membrane is of a pale rose tint, taking on a somewhat opalescent hue in the naso-pharynx, and particularly around the posterior margin of the septum; the follicles on the mucous membrane are red, large, and prominent, and between them we find numerous large swollen veins; covering the areas of mucous membrane between the follicles, we often notice a quantity of gray, sticky mucus, which harasses the patient and is difficult to expectorate. According to Duckworth,[4] "the pillars of the fauces, especially the posterior pair, the velum, and the uvula, are very red and glazed. They appear as if freshly brushed over with glycerine."

In one instance of gouty granular pharyngitis reported by Guéneau de Mussy [5] the patient expectorated daily masses of carbonate and urate of lime. These came from follicles of the mucous membrane which showed white points.

No doubt this pharyngeal condition may be constantly aggravated by bad hygienic conditions, or by injurious habits, such as pertain to alcoholism or smoking. The result is, that in order to form a judicious appreciation of the cause of the morbid expression in the throat, we must select subjects who are not addicted to these habits, and who likewise are free from the taint of scrofula, syphilis, and tuberculosis. After all, we must fall back in very many cases, in order to make a satisfactory diagnosis, upon the general symptoms offered by the patient. When the underlying dyscrasia is clearly enough of the nature of rheumatism, and when the throat affection is of the nature of a tonsillitis—and especially a follicular tonsillitis—we have some of the following signs to guide us aright. The atmospheric conditions which produce the tonsillitis and cause the rheumatism are similar.

Again, rheumatism and tonsillitis may both be caused by bad drainage. In a large proportion of rheumatic cases attacks of follicular tonsillitis have preceded the outbreak of the rheumatism. In both diseases there are frequent recurrences. Brown,[1] and William Osler have also seen endocarditis complicate tonsillitis. Further, Brown relates the case of a young woman in whom follicular tonsillitis alternated with erythema nodosum, yet the patient never had a rheumatic pain or joint trouble.

The manner in which these cases are connected as regards causation seems to be: 1, Either the rheumatism as a general disease attacks the tonsils, or it may cause inflammation of serous membranes; 2, or the follicles of the tonsils are the gate of entrance for rheumatic poison; 3, or specific germs find an entrance into the body under favorable conditions and then give evidence of their presence by producing inflammation of the tonsils.

In regard to the existence of gout in the throat, while I acknowledge that its existence is often "the last resource of destitute diagnosticians," yet I hold that in its milder forms, at least, its presence is often quite clearly manifest.

Gout should be admitted, I believe, when the following conditions are united: 1. When the local treatment has proven of little or no avail. 2. When during the course of a laryngitis or pharyngitis local irritation and cough suddenly disappear, and one or more of the small joints become affected with a gouty inflammation. 3. When the general treatment appropriate to gout is soon effective in relieving distressing symptoms evidently referable to the throat.

In an interesting article on "Gout in the Throat," Dr. Morell Mackenzie [2] affirms that, in the course of a long and somewhat large experience, he has met with a few cases, but does not consider that gout is by any means common in the throat. This opinion is shared by many. Most of the cases of "gouty sore-throat" which have been described are in some manner connected with metastasis. Thus, for example, if pain, irritation, or inflammation is aroused in the pharynx or larynx very soon after a gouty development has disappeared elsewhere, the throat is known to be gouty. Harrison Allen [3] has thought that the study of sore-throat as it occurs in gouty subjects, independent of metastasis, and which yields only to anti-gouty remedies, might prove of interest, and reports several cases of this kind. According to him, the distress in the throat is not apt to occur in acute attacks of gout, but rather in those persons who are prone to neuralgic attacks of an irregular form. Frequently it occurs after indiscretions of diet, and is often preceded by dyspepsia, constipation, and a persistently furred tongue. The phenomena of the gouty condition are, as we know, infinitely varied in type and at times very peculiar. According to Jonathan Hutchinson [4] many of them are caused by local restricted attacks of peripheral neuritis. If this be true, I can explain satisfactorily many of those cases in which there is painful deglutition or a steady localized ache in certain limited areas of the tonsillar or laryngeal region, which I have frequently met with, and which resist all sorts of local treatment, and finally only yield to treatment by alkalies or colchicum and restricted diet.

[1] Journal of Laryngology, vol. iv., No. 4, p. 145.
[2] See article already referred to, p. 196.
[3] Transactions of the American Laryngological Association, 1889, p. 126.
[4] A Treatise on Gout, p 88. Philadelphia, 1889.
[5] Quoted by Duckworth, loc. cit.

[1] British Medical Journal, September 14, 1889, p. 582.
[2] The Journal of Laryngology and Rhinology, vol. iii., No. 8
[3] Medical News, June 16, 1888, p. 663.
[4] The Practitioner, September, 1889.

It must always be borne in mind that every case of sore-throat which occurs in a gouty subject is not of necessity gouty. A patient, as Dr. Mackenzie says, may be attacked with a septic pneumonia or with cardiac disease, just as he may break his leg or cut his finger, and it must not be inferred that these diseases necessarily have anything to do with a gouty dyscrasia. The only disease with which the sore-throat of gout can be confounded is the irritable throat of lithæmia. The latter occurs in young persons and is amenable to abstention from wine and too much nitrogenous food, with the additional aid of a brisk purgative. The lithæmic throat is usually uniformly red, the tonsils are slightly swollen, the uvula elongated and thickened, and all these parts bathed with a considerable amount of mucous secretion. Rarely is there any acute pain in the throat, and if there be any discomfort of this organ it is more in the pharynx than in the tonsils.[1] True lithæmia is quite distinct from gout. In the former case the urine is heavy, loaded with lithates, and small in quantity, while in the true gouty cases the urine is usually clear, abundant, and contains a small quantity, relatively, of urates or of uric acid (Garrod).

One peculiarity which affects equally the lithæmic as well as the real gouty throat (Allen) is the fact that applications of a stimulant or astringent nature, instead of affording marked relief to the patient, are apt to cause additional distress. As it is often a very nice question to make a positive diagnosis of the gouty condition before regular treatment has been instituted, and in the absence of facts in the personal history which enable us to affirm it, any conditions which, being present, point strongly in that direction have considerable importance. Allen considers that the best guides, perhaps, to a gouty condition are furnished by the permanent teeth. The peculiar features remarked in them are that the incisors are large, thick in the antero-posterior diameter, and the enamel yellow. The free margins are blunt, without serrations, and sometimes very much worn, so as to resemble pegs rather than edge-cutting instruments (Fothergill). The gums show a tendency to recede from the neck of the tooth. A point of considerable importance in this connection may be noted in the point of departure of the lesion. For other diathetic conditions this seems to be marked. In syphilis it is the soft palate, in scrofula the pharynx, in tuberculosis the larynx, in rheumatism and gout it is the tongue (Isambert). In this organ we can notice frequently certain well-defined lesions which, if present, throw considerable light upon the nature of the throat trouble. The tongue may be simply covered with a yellowish coating with a more or less defined sinuous outline. This coating may be confounded at first with that due to a passing bilious condition, or to the habit of smoking or chewing. But when these habits do not exist, and when the signs of disturbed digestion are not present, we are disposed to regard it as an arthritic evidence. In more advanced conditions the tongue is more or less deeply furrowed, either on the middle of its dorsal surface or along its margin. This condition might be confounded with the appearances often met with in syphilis or tuberculosis. In syphilis, however, we find inflammation and thickening of the substance around the ulcer, besides the general symptoms which show its presence. In tuberculosis the ulcerations are rounder and deeper, and we are apt to get a history of phthisis and to discover evidences in the lungs of its existence. Those dry white patches on the tongue which resemble the eschar produced by the local action of nitrate of silver, and which have been called psoriasis of the tongue, are occasionally present at the same time with the pharyngo-laryngeal inflammation which seemingly should be attached to the herpetic or arthritic diathesis.

These different lingual appearances have been designated by similar names to cutaneous affections of a more or less analogous type which may exist at the same time that they are present. Thus we read of lingual pityriasis, eczema, psoriasis, etc. The latter term is the only one which I should be willing to accept as being justified by any morphological resemblance between the lesions of the cutaneous and mucous surfaces. As regards attaching the definite lingual aspects more to certain degrees, or kinds of pharyngo-laryngeal inflammations than to others, this appears to me in general extremely difficult, and I have not been able hitherto to establish in my own experience very evident distinctions.

What is the nature of the underlying dyscrasia which occasions these inflammatory conditions of the throat as well as the concomitant eruptions of the skin which so frequently are present? Many different theories have been offered to explain it. Among these I would select that of Bence Jones[1] as being on the whole the most satisfactory, since it embraces a wider range of facts than any other, and seems to solve tolerably well in my mind the numerous problems as they are clinically observed.[2] This theory is that of suboxidation. By suboxidation we mean that the substances taken into the stomach as food are not sufficiently metamorphosed into completely soluble substances in the blood and tissues, and accumulate in the economy to that degree that they occasion morbid effects. Uric, lactic, and oxalic acid, creatin, creatinin, etc., are the chief products of imperfect oxidation. Why do these substances accumulate in the economy? In some instances it is because the amount of food taken is more than sufficient for the needs of the body, and instead of it being thoroughly oxidized, or reduced to a soluble form and eliminated, it remains in an insoluble state and is partly retained in the blood. Frequently the quantity and quality of the food taken are as they should be, but the power of oxidation is insufficient, or the quantity of this element is diminished. The latter condition we meet with in anæmia of different forms and many states of lowered vitality. The small power of oxidation may be inherited or acquired, and the precise cause of it is more than difficult accurately to determine. All that we can do at times is to combat the results and not the etiology of this lack of power. The special organ which is most at fault in many of the instances where suboxidation is at the bottom of the actual disorder is the liver.

The liver is not always diseased in such cases, but it is functionally inactive and requires constant stimulation. In this phase of suboxidation, and owing to the accumulation of the different organic acids, the blood is rendered subalkaline and this subalkalinity prevents, as we are aware, the processes of oxidation from being as completely carried on. Whenever there is an accumulation of suboxidized materials in the blood and tissues, unless the kidneys are equal to carrying them off from, or out of, the economy, we turn to the bowels as the real efficient emunctory of the body. From the frequent appeals that are made to the bowels, both by nature and man, this organ does not, as a rule, suffer much from becoming the way of exit for an excessive amount of excrementitious substances. Unfortunately, however, other vicarious avenues are also selected for the passage outward of the pent-up *materies peccans* which indicates the diathetic condition, and hence it is that the skin and mucous membrane of the throat often show evidence of irritation and disease as a consequence of this selection. No doubt, therefore, the same, or very analogous, conditions of the body produce on different occasions painful affections of the joints (arthritism), eruptions of the skin (herpetism, dartre, rheumatism), or inflammatory diseases of the throat. I grant that it is not always easy, or even possible, to give a clear and irrefutable demonstration of this fact, but in many cases, if we weigh carefully the evidence we possess, we must admit that it is the only rational

[1] A masterly description of The Nervous Symptoms of Lithæmia, by J. M. Da Costa, M.D., may be read in the American Journal of the Medical Sciences for October, 1881.

[1] Lectures on Some of the Applications of Chemistry and Mechanics to Pathology and Therapeutics. London, 1867.

[2] I am glad to find that Dr. William H. Draper (v. Pepper's System of Medicine, vol. ii., p. 113) writes that "the purely chemical theory of gout has much to commend it," etc.

method of uniting many isolated examples which between them manifest a long list of close relationships.

The late Dr. Murchison regarded gout merely as a result or variety of lithæmia. "This latter condition of the blood," says Duckworth,[1] "is recognized on all hands as due to imperfect digestion and functional derangement of the liver." Piffard also regards deficient functional activity of the liver as being the *fons et origo* of most of the disorders from suboxidation.[2]

I have been led to believe that many throat disorders which are called rheumatic, or gouty, may be very properly included in this list. The prognosis in the foregoing cases is always good. Frequently the symptoms fade away in the other signs of acute articular rheumatism which rapidly become manifest. In that case the development of the articular symptoms merely shows distinctly the nature of the throat affection which has preceded them. In the rheumatic sore-throat which takes place when the health is not otherwise impaired, and in which the patient complains mainly of a pain over the hyoid bone, larynx, or tonsils, the trouble may persist a long while without appreciable relief, even from what appear to be appropriate remedies. Ultimately, however, these patients recover, and I have never known any real gravity to attach to them. I should, perhaps, make an exception in this place for certain cases of enlarged lingual tonsils, apparently of rheumatic or gouty origin, which have occasioned in my experience very distressing symptoms at times. These symptoms are sensation of constriction around the throat, choking attacks, disability in swallowing, and marked dysphonia. On one occasion I treated a lady who suffered from the formation of an abscess in this region apparently, and in whom, previous to the bursting of the abscess, the symptoms were extremely painful and also quite alarming, as the patient seemed to dread asphyxia from choking—and there was sufficient ground for her natural fears. In medical literature there are some instances which seem to indicate the possible gravity of some of these cases, notably in the case of gout.

Barthez[3] reports, after Musgraves, that in one instance an attack of metastatic gout in the throat was sufficiently severe to threaten suffocation and necessitate a tracheotomy in order to save life.

In chronic gout Virchow has made a study of the deposits which are occasionally formed around the laryngeal cartilages. Sir Morell Mackenzie, in his four typical cases of gout in the throat, mentions acute œdema of the uvula, which disappeared suddenly when an ordinary attack of gout developed, and fungous ulceration of the left ventricular band which was very like cancer.

Isambert cites cases of nervous dysphonia due to incomplete paralysis of the adductor muscles of the larynx, and which he attaches to the same conditions which produce cutaneous eruptions and a deposit of uric acid in the urine. This same observer is inclined to the belief, from his observations, and those of Bazin, that a laryngitis of gouty nature may ultimately be changed into a true cancerous affection, and he refers to cases which corroborate this view. Is there a rational basis for the treatment of these cases? Certainly there is, if we refer to the nature of these affections as far as I have been able to determine it, and if we recognize the indications already given. In the first place, the blood is subalkaline from retention of the excrementitious substances which should normally be expelled. In the second place, the aliments taken as food are not properly oxidized and do not therefore take forms like urea, which are soluble and easily eliminated. As Piffard remarks, there are two objects which should constantly be held in view: 1, The depuration of the blood; 2, the increased oxidation of alimentary substances introduced into the stomach. The first object should be attained by the use of alkaline diuretics, by purgatives, by increasing elimination through the skin, which can be accomplished by exercise, baths, friction. The second object must be attained by the use of iron, oxygen—breathing fresh, pure air.

Among the alkaline diuretics I believe natural Vichy water to be one of the best. It promotes the flow of urine, it reduces the subalkalinity of the blood. Among the purgatives—and particularly for the reason that the liver is probably the organ most at fault—I recommend repeated small doses of calomel, podophyllin, or Carlsbad Sprudel salts, dissolved in warm water, or in the Sprudel water itself. Whatever theory we may believe in regarding these therapeutic agents, there is little doubt in my mind that in very many cases after their use the quantity of bile evacuated in the stools, and the quantity of uric acid and urea eliminated by the urine is often notably increased. I confess that there are cases in which the precise result of the hepatic stimulant is not evident. I also am obliged to say that occasionally we meet with cases of undoubted rheumatic or gouty sore-throat where all purgative medicines—even the most appropriate—seem to be wholly without good effect. These are, I believe, instances in which the liver is not primarily at fault. Under these circumstances I am often impressed with the fact of the great benefit received from frequently repeated Turkish baths, when they are judiciously given. The skin is thus made to act more thoroughly, and if we may form correct conclusions from the results obtained it is obvious that the skin must be the organ most in need of attention. Exercise and friction—meaning by that walking, riding, tennis playing—combined with massage and passive movements, are powerful adjuncts to the usefulness of the Turkish bath.

As the main carrier of oxygen to the economy is the blood, iron should be given in small doses and during long periods of time, to increase the oxidizing power of the economy. In my experience no preparation of iron for this purpose equals the tincture of the chloride of iron in ten to twenty drop doses, three or four times in twenty-four hours. I also believe that inhalations of pure oxygen, or oxygen gas in which there is a certain proportion of nitrogen, help the patient surely and continuously by enabling him to assimilate some of the iron he is taking, which without the oxygen gas would have no appreciable good effect whatever. Of course the diet should be regulated, and if the patient be taking daily an excess of albuminoid or starchy food, it should be diminished in proportion to the needs of the economy, or to the ability to consume thoroughly the food that is given him. Now, in my judgment, the quantity of food required by some people to preserve and keep in good condition the bodily nutrition differs a very great deal from the amount necessary with others, and no hard-and-fast rules should be laid down in regard to quantity of food. The main thing is to insure perfect digestion and assimilation of what is actually taken, and this I believe is accomplished by consulting somewhat the individual peculiarities we have to do with, and by inculcating rigid observance of sobriety in all things pertaining to food and drink. While, however, I believe the foregoing general rules should govern dietary requirements I am not averse to being inflexible in forbidding any but the most limited indulgence in sweets in any form, or in the use of farinaceous food, particularly in cases where it causes fermentative dyspepsia and all the evils which proceed therefrom. In some of these cases I am confident that I have obtained excellent modifying effects from the exhibition of arsenic, either in the form of arsenious acid, Pearson's or Fowler's solution, or, what is still more useful, the natural mineral water of Bourboule.

The internal use of the French sulphur waters, and especially those of Aix-les-Bains,[1] in Savoy, have unquestionably benefited some of my patients in a remarkable

[1] Loc. cit., p. 11.
[2] Loc. cit., p. 132.
[3] Annales des Maladies de l'Oreille et du Larynx, vol. i, 1875, p. 207.
[4] Journal of Laryngology, August, 1889.

[1] A distinguished physician of New York informs me that the waters of Marlioz and Challes (resorts near Aix), are more frequently drunk by patients than those of Aix-les-Bains.

manner. In regard to our own sulphur springs, and notably those of Sharon and Richfield, I have latterly spoken against their utility when drunk in any great quantity. Owing, apparently, to the large proportion of insoluble salts of lime which enter into their composition, they prove indigestible, and instead of being active agents in eliminating gouty products from the economy, are apt to cause their retention. I have undoubtedly seen gouty patients who have returned from a season at Richfield with further pain and stiffening of the joints, and with aching and hardening of the muscles of the limbs. So far, however, as the gouty nature of the throat trouble is concerned, I know of no remedy that at times clears up the situation to the same degree that colchicum, or its alkaloid colchicine, does. Many patients, in my experience, upon whom I have tried everything I could think of that seemed in any way rational or indicated, or who have simply remained in a stationary condition or become greater sufferers, have been, in one week's time from the period of beginning to take this drug, so much improved generally and locally that they have expressed themselves as feeling like new beings. The urine would occasionally give evidence of this treatment by containing a large amount of urates and of uric acid. Not infrequently it would remain wholly negative. In these and other cases "the drug probably acts in more ways than one, possessing not only specific anodyne properties, due, perhaps, largely to its action as a vascular depressant, but also the power of hastening and modifying hepatic and other tissue-metabolism, together with an eliminant property." [1]

So much for the general treatment of these cases. How shall they be treated locally? Those who have written with, as I believe, accurate and extensive knowledge of the subject have claimed that astringent applications to the throat are not merely useless but frequently harmful. They do not alter advantageously redness and irritability of the mucous membrane. They do not produce secondary quieting and soothing effects, such as we often observe after the treatment in this manner of localized inflammatory affections, non-diathetic in character. On the contrary, they augment and aggravate the local congestion or thickening, and the patients soon become tired and restive under the repeated application of a treatment from which they experience little or no relief. The foregoing statements are, without doubt, true in many cases. And yet, as always in medicine, there are exceptions to the rule, and I find occasionally rheumatic and gouty individuals whose throats are notably benefited by applications of iodine, zinc, iron, etc. It is not inappropriate in some of these irritable throats to follow the application of the astringent by the use of an anodyne, like the tincture of opium, or to combine the opiate with the astringent, and make the double application at the same time. As a rule, however, the soothing sprays or inhalations are the ones from which we derive most benefit. Different modifications of alkaline sprays with carbolic acid, thymol, menthol in small proportions, and more or less glycerine, are what I have usually found most effective. Where the nervous irritation and sensibility are very great, cocaine in small quantity may occasionally be added with some benefit. Warm inhalations of steam impregnated with benzoin and fir-wood oil, or eucalyptol, are soothing and helpful at bedtime, but should not be tried during the day, as they will tend to increase congestion and sensitiveness, on account of the atmospheric changes to which the patient is of necessity exposed. It is in these cases that we obtain our most satisfactory results from the inhalations and pulverizations as employed at the sulphur spas in Europe, and now, I am happy to state, in two places at least in the United States, of general resort, namely, Sharon and Richfield Springs. At Sharon it has been found, in certain cases, that the sulphur water, combined with pine needle extract, is even more useful than the sulphur water alone. Where the general condition of the patient is poor and requires strengthening, the sulphur baths, given twice a week, or every other day, are valuable as a corroborant; but I do not believe they have any but this indirect influence in ameliorating the inflamed mucous surfaces. The air of the country of, or about, the sulphur springs, I have thought, may be especially useful, but with respect to this judgment I advance it as merely having probabilities in its support.

[1] Duckworth, p. 355.

PERSONAL EXPERIENCE WITH GALL-STONES, AND THE OPERATION FOR THEIR RELIEF.[1]

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Quæ que misserima vidi,
Et quorum pars magna fui.—Virg., ii., 5.

My reasons for presenting a paper on this subject are the quite unique experiences I have had with the disease as attendant, operator, and patient, and the very pronounced views I entertain regarding cholecystotomy which I have successfully undergone at the hands of Mr. Tait. From when I first read of Mr. Tait's work, and considered its aims, I was a firm believer in the propriety of the operation. During the first few years of my practice I made at least seven autopsies, in which cancer of the liver and gall-bladder appeared to be secondary to gall-stone attacks occurring over years. So firm was I in the conviction that in obstinately recurring attacks operation was the only cure that I advised it in numerous cases, and it was as uniformly declined by patients or attendants, and I was regarded as having the operation mania. However, in 1885, I was asked to see a woman, fifty-four years of age, Irish, and a widow, who for eighteen months had suffered the torments of the damned during the attendance of many physicians. Three months before my first visit she had passed, after terrible pain, three gall-stones the size of beech-nuts, and from that time out was in constant torment with pain, nausea, and vomiting. I found her with a temperature a couple of degrees above normal, extremely emaciated, and of an old-gold color. I told her that she had gall-stones, and might have as complications malignant disease and occlusion of the common duct, and advised, as the only hope, operation. After a wonderfully cool weighing of the subject she desired me to operate. This I did eleven days later, at which time she had become a tea-green color. On opening the abdomen I found the gall-bladder empty, but there was marked evidence of malignant disease in the liver, and I therefore closed the wound. Five weeks later I told the patient what I had found, and she bade me make, when she died, a thorough autopsy, and to invite my assistants and all who might be interested. When she died, eight and a half weeks after the operation, I found plastic occlusion of the common duct, a cancerous nodule pressing upon the junction of the cystic and hepatic ducts, and twenty-six gall-stones, weighing half an ounce Troy, in the hepatic duct and its branches, which latter were dilated to the size of a centimetre and filled with yellowish matter. To my mind it was evident that the injury done by the passage of the three gall-stones, three months before operation, had led to the plastic occlusion of the common duct, and that the existence of cancer was to be explained by the prolonged irritation of gall-stones.

The next year I myself became a victim of the disease, and the increasing frequency of the attacks led me to consider, from a personal stand-point, the desirability of

[1] Read at the meeting of the American Association of Obstetricians and Gynecologists, Philadelphia, September 18, 1890.

operative interference. It was a subject in which my life and the future of my family was involved, and not many hours, certainly not a day, passed in which I did not review the propriety of operative interference, only to become more and more convinced of its being the only certain relief, if not cure. However, there were some things which led me to defer operation, and on November 27, 1888, I was asked to see Mrs. K——, fifty-six years of age, who had been a patient of Dr. C. E. Nichols, of Troy. Five weeks before I first saw her the patient began to have some pain in the right side and to become jaundiced. The pain was never acute. Dr. Nichols diagnosticated an enlargement of the liver, and said it was probably malignant. Professor Van der Veer saw her in consultation with Dr. Nichols three weeks later, and advised, he tells me, an exploration, unless there was speedy improvement. To this Dr. Nichols was extremely opposed, assuring the family that the case was cancerous and an operation would be fatal. On November 27th I was asked to take charge of the case, and found the patient markedly emaciated, with intense jaundice, anorexia, constant vomiting, putty-colored stools, constant, but not acute, pain in the hepatic region, full pulse of 58 to 65, and temperature of 100° F. Physical examination showed no ascites and no enlargement of the liver, but its whole lower border was very tender, and the gall-bladder, which I could readily feel, intensely so. My diagnosis was gall-stones, and I advised an immediate operation as the only hope, as each day the patient was losing ground. This met with opposition on the part of the family, which opposition was encouraged by the previous attendant. During the eighteen days which elapsed before consent could be had for an operation, the nausea, vomiting, and pain continued, and the failure of strength was so apparent that finally even the family recognized the necessity of an operation if she was to be saved. The temperature during these eighteen days had varied from 98.6° to 101.5° F., and the pulse from 65 to 90.

On December 15th, at 1 P.M., I operated, with the assistance of Drs. Bontecou, Hutchison, and Gordinier, and sulphuric ether was the anæsthetic. A vertical incision was made over the enlarged gall-bladder, and on opening the belly the omentum was found adherent to the whole lower border of the liver. In carefully breaking up these adhesions over the distended gall-bladder I opened an abscess containing a couple of ounces of pus, and lying between the upper surface of the gall-bladder and the liver. In the pus there was a gall-stone three-eighths of an inch in diameter. After thoroughly irrigating the abscess cavity I laid open the fundus of the gall-bladder up to the opening through which the stone had ulcerated, and I found the gall-bladder packed with the stones I now show you, numbering one hundred and fifteen, and weighing two ounces Troy. The stones were so wedged that I found considerable difficulty in removing them until I had broken up their union with a strong jet of water. This jet, a sort of placer mining, worked admirably, and I speedily had the satisfaction to find all thoroughly removed. Owing to the fear that some of the pus might have escaped into the belly, I washed out the abdomen thoroughly through the original wound, and then made a suprapubic counter-opening and flushed the abdomen again freely with hot water. A glass drainage-tube was inserted into the lower wound, and I then proceeded to stitch the gall bladder to the abdominal wound with sutures of silk. In doing this the left side of the gall-bladder was torn, obliging me to close the tear with several Lembert sutures of iron-dyed silk, and to make the tear still more secure I stitched to the gall bladder a piece of the omentum, which appeared to reinforce it strongly. A rubber drainage-tube was introduced into the gall-bladder and the wound closed with silkworm-gut. The operation lasted one hour. Apart from some nausea produced by the ether the patient had very little discomfort from the operation. The same evening the temperature, pulse, and respiration (which before operation were 101.5° F.; pulse, 65; respiration, 26) were normal, pulse, 104, respiration, 24. At four the same afternoon urine was passed voluntarily, and some flatus. No food was given by the mouth the first twenty-four hours. The day after the operation urine, flatus, and a putty-colored stool were passed. No pain, nausea, or vomiting; bile saturated the dressings, requiring frequent change of them. The measured quantity of bile was about eighteen ounces in one twenty-four hours. From this time, for three days, her condition was encouraging, for although the pulse remained from 114 to 120, and temperature from 102° to 98° F., yet she took nourishment, slept, had no pain or tympanites, the urine cleared up, and she expressed herself as markedly better.

On the morning of the 19th she had an offensive bilious movement; the temperature fell to 98°, and the belly was flat; and at 3 P.M. temperature was 98.4° F.; pulse, 94; and respiration, 22. I thought she was sure to recover, but at 10 P.M. she suddenly went into a collapse, and died, in spite of all I could do, at 5 A.M. on the 20th. The autopsy showed no peritonitis, no malignant disease; the sutures were intact, the adhesions firm, and the ducts patent. The death must be charged to cholæmia and delay. I think I can truly say delaying operation killed her.

The next case is my own. I have always been athletic, and as a medical student won the heavy weight sparring championship of Harvard; am five feet nine inches in height, weigh two hundred and ten pounds, and am thirty-seven years of age. The first symptom which I now associate with my trouble was an attack of atrocious pain in the epigastrium, six years ago, coming on suddenly while I was in the field shooting. The pain was simply horrible; I could scarcely breathe, was bathed in a cold sweat, and found I could run easier than I could walk. By several rapid bursts of running I reached, more dead than alive, the house where I was staying, a hundred rods distant. My wife and family were alarmed at my ghastly color and thought me dangerously ill. However, a full dose of morphia and atropia, hypodermatically, gave me relief in twenty minutes, and in a couple of hours I was again in the fields. I had no further trouble save an occasional attack of what I regarded as indigestion, until four years ago, when I had a very severe attack, ushered in by terrific pain and vomiting. The illness lasted ten days, and jaundice came on almost immediately, and persisted for some time after I had taken up my work. My attacks became more and more frequent, but were not accompanied by jaundice. As they increased in frequency my attention was drawn more closely to their various symptoms, particularly as in the subsequent attacks, owing to the absence of jaundice, doubt was cast by my friends on my diagnosis of gall-stones. The attacks were usually sudden, having no connection with the taking of food, only rarely accompanied by vomiting, always by clay-colored stools, and later in my case I noticed that clay-colored stools would sometimes precede an attack by one, two, or three days. The pain was always in the epigastrium, never in the liver or gall-bladder, and there never was any shoulder pain. This shoulder pain has, in my experience, occurred in but an extremely small proportion of cases. Usually my attacks were of short duration, consisting of one or two paroxysms, which were relieved by ¼ grain of morphia and one to $\frac{1}{100}$ grains of atropia. I ought to say that I am very sensitive to morphia and especially so to atropia. In the early spring of 1889 my attacks became much more frequent; probably due to driving over as bad city streets and roads as are to be found; the attacks not infrequently coming on at night, awakening me from sleep by a sense of uneasiness and tension in the epigastrium. Associated with this epigastric uneasiness there was no tenderness in the epigastrium; although palpation always showed tenderness of the lower border of the liver it was exquisite over the gall-bladder. Many a time after

being so awakened I have for a long time studied the augmenting violence of these paroxysms, and noted by palpation the increasing tenderness of liver and gall-bladder, until hellish pain banished scientific curiosity and I sought relief in morphia. Later in the summer of 1889 I had several paroxysms a week, but none were so severe as to keep me from my daily round, although often I would be compelled to lie down in a patient's house, or, with set teeth, finish my visit to return home to get into a hot bath for relief rather than to be constantly resorting to morphia. The evening I left Albany to attend our Cincinnati meeting I had two paroxysms, brought on by the shaking of the train, and each day after I had at least one, and often several paroxysms. In Chicago I was obliged several times to cut short carriage drives because of the pain even an easy carriage brought on. So constant were the attacks, so great was the pain, and so hopeless the future without operation, that I wrote from Chicago to Mr. Tait asking if he would operate on me. On my return home I took up my work, but found that the slight motion of an easy buck-board over a smooth road would bring on pain in a few minutes. This I combated with grit hot baths, wild yam, and when I could bear it no longer, morphia. Three weeks of trying, wearing work went by when I received Mr. Tait's reply to my Chicago letter. It was, "Come over and I will do my best for you." In a week I made my preparations, and on November 30th my wife and I sailed on the City of Paris. Every day at sea I had one or more attacks which yielded to morphia. I felt that if I was to be operated on, as I intended to be, I should at least enjoy all the comfort morphia could give. It was December 11th before I could see Mr. Tait, who was absent from home on my arrival. He looked me over; could find no enlargement of the liver, no jaundice, and the only evidence of gall-stones, apart from my history, was exquisite tenderness over the gall-bladder. I had had, by the way, a tremendous attack forty-eight hours before. In view of my history, he thought I ought to be operated on, and I asked him to operate the next day, so as to relieve my wife and friends on this side from their anxiety. Mr. Tait counselled a few days' delay, advising me to get my lodgings, and as soon as settled he would send me a nurse and operate a few days later. The same day I obtained excellent lodgings and found awaiting me the nurse who was to care for me. The day but one after Mr. Tait operated. A mixture of ether and chloroform (two to one) was used in a Clover's inhaler.

The operation was, I am told, a very difficult one, because of the great thickness of the abdominal walls, and the fact that I had a contracted gall-bladder so small as to make its attachment to the abdominal walls very difficult. In addition to a large quantity of grit, Mr. Tait removed one hundred and fourteen stones, which are contained in the vials B and C. There was sharp hemorrhage from a branch of the cystic artery, which caused some annoyance. A rubber drainage-tube was inserted into the gall-bladder, which was united to the abdominal wall by four silk sutures, and then a rubber drainage-tube was inserted, and the abdominal wound closed with four silk sutures. The duration of the operation was fifteen minutes. The only discomfort after the operation was from the dragging of the gall-bladder in the wound and the laryngeal irritation produced by the ether. For thirty hours I had no nourishment, and after that a teaspoonful every fifteen minutes of equal parts of milk and lime-water. The fourth day my bowels were moved by a turpentine enema, and on the fifth day, owing to some hemorrhage, the drainage-tube and stitches were removed, and I could turn to either side, much to my relief. I sat up the ninth day, went out to dinner the tenth, and walked four miles the twelfth day. I had determined to be operated on before my constitution broke under the torture, and I think my prompt recovery proved the wisdom of so doing. For the first few days after the operation the dressings were saturated with bile and required changing every fifteen minutes to a half hour; after the removal of the tube the bile diminished greatly in quantity, although I had to be padded freely for a week after getting on my feet. About a fortnight after the operation Mr. Tait cut away the first buried suture, and I removed the remainder about two weeks after. Bile ceased to come through the fistula the third week, and it was firmly closed by the sixth week. For several months I wore an abdominal bandage.

To return to the general subject. We know nothing of the true mortality of gall stones, for many cases undoubtedly die from them and are buried under diagnoses of peritonitis, obstruction of bowels, malignant disease, jaundice, colic, etc. Our knowledge of its mortality is as obscure as that of extra-uterine pregnancy was a few years ago. As to the etiology, as little is known, save it is much more common in the countries where fat forms a larger part of the dietary than in the tropics. As to diagnosis: There is usually a history of dyspepsia of varying duration before the first pronounced attack; not infrequently attacks of so-called indigestion or gastralgia, whose nature only becomes clear when jaundice happens to be associated. The shoulder pain, of which the books make so much, is very infrequent; so infrequent, in fact, as to be of no diagnostic importance. On the other hand, the pain in the vast majority of cases is epigastric, and not even referred to the liver, even when palpation shows the liver border and gall-bladder to be excessively tender. Senac ("Du Traitement des Coliques hepatique," Paris, 1870) was the first, I believe, to call attention to the fact that the pain is usually epigastric. There seems to be a belief among the profession that jaundice is almost a necessary consequence of gall-stones. Yet the fact is without a doubt that it is only when the hepatic or common ducts are completely obstructed that jaundice occurs, and even then if the stone is small it may be of so evanescent a character as to escape notice. In my own case, in all my several hundred paroxysms I never was noticeably jaundiced but twice, although my complexion was muddy. Yet I have detected bile in my urine within an hour after a paroxysm, which was followed for a couple of days by clayey stools but no jaundice.

A few days since I was consulted by a former patient, residing in an adjoining city, whose first attack came on the day after falling through a hatchway. The attack lasted ten days and was accompanied by jaundice. Now, after eighteen months, the attacks occur fortnightly, but are not accompanied by jaundice. In my own case I would explain this absence of jaundice by the stones being both very large and very small. Some so small that after the extremely painful passage of the sensitive cystic duct they found no difficulty in traversing the much more distensible and far less sensitive common duct, and occasioned only a very brief obstruction to the bile at the duodenal opening. The larger ones were so large that when shaken into the mouth of the cystic duct they would cause pain, but could not lodge or pass into the common duct, and consequently could not obstruct the flow of bile into the intestine. Early in my case I acquired the habit of daily observing my stools, and found that always after an attack, and, strange to say, sometimes a day or two before a paroxysm, the stools would be clay colored. I also observed that the gall-bladder was tender to light palpation a day or two before some attacks, although no symptoms called my attention to my liver, it being discovered by my habit of palpating this organ. Occasionally the disease is ushered in by an intermittent fever due to suppurative inflammation of the gall-ducts, and this is well to remember in doubtful cases accompanied by jaundice. We are less likely to operate for gall-stones and find we are mistaken than to run up against them when we have diagnosed some other condition. Mr. Tait operated on a tumor with the diagnosis of broad ligament cyst, and found a gall bladder distended by eleven pints of fluid; the stones were removed and the gall-bladder drained below the umbilicus, with recovery of the patient.

The late Dr. Hutchinson, of Brooklyn, had, I believe, a similar experience. We may find malignant disease complicating the case, but no harm is done by an exploration. Medical treatment is, I think, of little avail in removing gall-stones when once formed. It cannot dissolve the stones, and so it must aim only to relieve the constitutional vice leading to their formation, and to assuage the torments of the paroxysms. For the constitutional vice I think exercise, temperate eating, the salines, Carlsbad water, salicylate and phosphate of soda, iron, and possibly the wild yam (*dioscorea villosa*) may be of service. But during the paroxysm, nothing, in my opinion, equals hypodermics of morphia and atropia. Hot baths and wild yam are excellent adjuvants, but for the severest pain I think nothing equals the morphia and atropine. In some attacks the wild yam gave me very prompt relief. From chloroform or choral internally I never had any benefit. Large doses of olive-oil have gained an undeserved reputation for removing large numbers of so-called gall-stones, which were, in fact, nothing but masses of saponified oil. For recurrent cases I am firmly of the belief that operation is infinitely less dangerous than delay, and the only method which promises an absolute cure.

As to operations, we may pass over such follies as the manual extrusion and consider the only two now practised, cholecystotomy and cholecystectomy.

Cholecystectomy, or excision of the gall-bladder, I regard as a thoroughly irrational operation. It was proposed and done by Langenbuch, of Berlin, on the assumption that the removal of the organ in which the stones are commonly found would cure the disease. The fact is,[1] however, that gall-stones may be formed, and are found, in every portion of the gall-ducts, from the liver-tissue to the intestine. Thornton and Tait have both removed them successfully from liver-tissue, the stones numbering, in one of Thornton's cases, as many as four hundred and forty-eight. As yet we know nothing of the office of the gall-bladder, but it would seem from Mr. Tait's investigations that it probably produces a ferment needed in digestion. To extirpate such an organ unnecessarily seems to me very bad surgery. I certainly would not assent to become a patient of an operator so illogical as to prefer the excision of the organ to simple incision. It should, in my opinion, never be an operation of election, and, if done at all, should be confined to fragile gall-bladders. Even here I think suture of the gall-bladder and omental buttress grafts may supplant it, or an artificial sac may be made from the omentum, and then the operation reduced to the conditions of cholecystotomy.

In cholecystotomy, as first planned by Petit in 1745, first performed by Marion Sims in 1878, and fought into recognition by the genius and pluck of Lawson Tait, we have the ideal operation. Ideal, I say, because it enables us to remove collections in the gall-bladder, the most common situation; at the same time it affords a channel for the bile to escape if there is any temporary obstruction, as inflammatory swelling or an overlooked stone in the common duct. If there are stones in the common duct, they can be removed by crushing, as done by Tait, or by excision and subsequent suture of the duct, as has been very successfully done by Thornton. Patients may live for years with no bile entering the intestine, so long as an exit is given to the bile by a fistula, which is a marked contrast to what the issue would be were a stone impacted in the common duct overlooked in a case of cholecystectomy. In this latter case one of two equally fatal conditions would result, either slow poisoning from the retained bile, or rapidly fatal peritonitis from the forcing by retained bile of the ligatured cystic duct. In case of a reaccumulation in the gall-bladder, very slight though the chances appear, a simple incision in the cicatrix of the adherent gall-bladder would give easy access to, and exit for, the stones. The dragging of the adherent gall-bladder at first is somewhat inconvenient and unpleasant, but in my own case it did not make itself felt more than a few months, and this summer I have rowed, sparred, swum, and played lawn-tennis without the slightest inconvenience. The danger of a permanent fistula is very slight, as it is only when an obstruction in the common duct has been unrelieved that this can occur. If from an impacted stone time may be gained for its excision or crushing, and if the obstruction is insurmountable, we can still do a cholecysto-enterostomy, as has been successfully done by Grieg Smith and Winiwarter, and thus divert the bile to the bowel and close the fistula. To suture the incised gall-bladder and drop it back exposes the patient during the first few days to the same danger as cholecystectomy, and its mortality has been enormous. As to the comparative mortality of the operations, I can give no accurate statistics of cholecystectomy, although it is far more fatal in its author's hands than cholecystotomy in Mr. Tait's. Mr. Tait has, until a few weeks ago, operated upon 67 cases, of which 3 only had died, 1 of suffocative catarrh three weeks after operation, and 2 of cancer, but none of the deaths were directly connected with, or chargeable to, the operation. Mayo Robson, Grieg Smith, Dr. Savage, and Dr. Bantock have had unbroken success with the operation as performed by Tait. Thornton a year ago had done 43 consecutive successful cholecystotomies and 8 cholecystectomies. From this it certainly appears that in the hands of men expert in abdominal surgery the mortality is extremely small. As to contra-indications, Mr. Tait wrote me, a short time since, "I know of none save malignant disease. I have removed successfully gall-stones from the liver itself, and from every portion of the biliary canals."

My conclusions are: 1. Epigastric pain, with tender liver border, gall-bladder, and clay-colored stools are the cardinal diagnostic points. Jaundice and shoulder pain are too infrequent to be of much value. 2. Medicines are of only temporary value in cases of gall-stones, as we can never tell whether we have large or small stones to deal with. 3. Early operations will cure with but a very small fatality, probably less than five per cent. 4. The excision of the gall-bladder should never be an operation of election. 5. Cholecystotomy satisfies all the requirements of the operation. 6. Recurrences are as yet unknown. 7. Medical consultations only wait for the autopsy to settle the diagnosis.

Note.—The procedure which I suggested, instead of excision of the gall-bladder, of stitching the omentum to the gall-bladder and abdominal wall, so as to form an artificial sac, has, as I learn by the *British Medical Journal* of October 25, 1890, already been successfully employed by Mr. Mayo Robson. Long ago I arrived at the conclusion that excision of the gall-bladder was never to be an operation of election, save in malignant disease, and in discussion in local societies I proposed the procedure mentioned in my paper. It is therefore with great pleasure that I have learned of so accomplished a surgeon as Mr. Mayo Robson having already demonstrated the feasibility of this procedure.

[1] The erroneous opinion that gallstones form only in the gall-bladder seems ineradicable, as a very interesting report of a case of cholecystotomy in the Annals of Surgery for November, 1890, says of cholecystectomy: "One point in its favor is that it prevents a recurrence of the conditions which necessitate the operation."

The Contagion of Small-pox.—Dr. W. F. Suiter, of La Crosse, Wis., is responsible for the following: Some years ago I attended a man suffering with a broken leg in a log-house in the lumber woods. After he had been in bed some weeks, sufficient for union to take place, he one day pulled a wooden pin out of a hole in a log beside his bunk, and wrapped around the end which had been in the hole he found a woollen rag. He amused himself by picking the rag to pieces. Just nine days later he fell sick with the small-pox, and investigation developed the fact that twenty-eight years before a family living in that house had died of that disease and the rag had been put around that pin at that time.

STUDIES IN THERAPEUTICS—ALOES.

By JOHN AULDE, M.D.,

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ALOES is a drug which has had a somewhat varied experience, although it is but within the past few years that it has been used with proper discrimination and with benefit. The well-known pill containing aloin, strychnine, and belladonna, enjoys an exceptional popularity, due largely to the smallness of the dose and the intervals at which it is recommended; but there are certain principles which should govern its employment, which many practitioners overlook, else it might be used more frequently and with greater benefits in those cases in which this remedy is indicated. With a view to popularizing the use of the drug with the profession, I have undertaken a somewhat comprehensive study, and trust it may be the means of leading to a better understanding of the therapeutical applications of this valuable remedy, while at the same time I will point out the objections to its indiscriminate or reckless use.

Pharmacology.—The active principle is aloin, a neutral crystalline substance, but not an alkaloid; it contains also a resin, insoluble in water, a small quantity of tannic acid, and a volatile oil, the source of the odor. According to the locality from whence obtained, this active principle is spoken of as Barbaloin, Socaloin, or Nataloin, and by some these different products are regarded as isomeric. Barbaloes is reputed to be the most active, and that is the preparation generally used by veterinaries.

Poisoning from the drug occurs in both the acute and chronic form, and, as showing that the drug enters the circulation, it should be stated that albuminuria takes place in either condition—an observation which may possibly throw some light upon the cause of the rapidly increasing frequency of this malady in later years, many of the proprietary remedies now found in the market having for their active ingredient some preparation of aloes. It is to be regretted that the popular pill mentioned has become familiar to the laity, as the rage or, shall I say, mania for purgatives, seems to outstrip all considerations for health, and undoubtedly much harm has resulted from the indiscriminate use of the combination. Absorption takes place through the mucous membrane of the alimentary tract, and applied to the skin by means of friction the characteristic physiological effects are produced. Elimination is by the kidneys, the liver, and the milk, the purgative action extending to the child at the breast, showing that it is thoroughly distributed throughout the system.

The general action is that of a tonic-astringent purgative; the salivary secretion is increased, and a bitter taste occurs in the mouth; no investigations have been made with a view to determine whether or not it affects the blood-cells or protoplasm, but in all probability medicinal doses are limited in their activity to the cells lining the walls of the intestine. In small doses, acting as a tonic, the intestinal secretions are increased as well as the peristaltic movements; but taken continuously in considerable doses, aloes causes more or less engorgement of the pelvic viscera, along with an unpleasant sensation of heat in the abdomen, dryness of the throat, with irritation of the rectum, and more or less tenesmus. The efficiency of the drug is due to the presence of aloin, and from the fact observed clinically, that the action is enhanced by the presence of bile, the suggestion has been advanced that ox-gall should be combined with it as a synergist when there is a torpid condition of the liver. Upon the digestive system the action is that of a purgative, whether taken internally, applied locally or hypodermatically; and when the conditions are favorable to its activity, the size of the dose is immaterial; with an unhealthy condition of the liver, large doses cause irritation of the bowel, most pronounced upon the lower section. Increase the activity of the hepatic function by means of cholagogues (mild) or carminatives, and we have in aloes a most admirable remedy for that form of habitual constipation which is so common in all countries. The addition of carminatives not only favors the action of the drug, but contributes to prevent griping. Fortunately, when aloes is exhibited in small doses along with carminatives, it does not cause irritation that is followed by constipation, and thus the drug can be continued at less frequent intervals until there is no longer a demand for a laxative.

As a cholagogue purgative, aloes produces effects through its irritant action; the peristalsis of the duodenum and small intestine is increased, the resorption of bile is prevented, the result being that a considerable amount of material is precipitated upon the large intestine, which causes more or less irritation, and for this reason, probably, it has heretofore been assumed that the drug had a selective action upon the colon. As a purgative it acts more satisfactorily when combined with tonics, and gentian, as well as iron, have been recommended—a question which will receive due attention when the therapy of the remedy is considered. The popular dinner-pill contains aloes as the active ingredient, and it is claimed by a prominent author that he has known persons to take such combinations for years, not only with benefit, but without any bad effects.

The whole genito-urinary system is affected in the most decided manner by preparations of aloes; the bladder becomes irritated, the urine hot and scanty; hyperæmia of the uterus follows its use, and a like effect is produced upon other pelvic organs, including the rectum and kidneys. The menstrual flow is sensibly augmented, and the sexual appetite appreciably increased, although its aphrodisiac action is doubtless largely of a reflex character through its influence upon the rectum. The tubules of the kidney lose their epithelium, and the glomeruli are surrounded by an increased amount of fibrous tissue, a fact which points to the possibility of a great deal of harm being done by the injudicious use of hiera picra, which has long been with the laity a popular remedy for the relief of almost all classes of bodily ailments in women, from the age of puberty to the menopause; and there is even a superstition that it will measurably relieve the nervous manifestations which often accompany that interesting period in woman's life.

According to the experimental studies of Rohrig, Rutherford, and Vignal, aloes proved to be an active stimulant to the liver when given to fasting curarized dogs, but these observers also found that hepatic stimulation and increased intestinal secretions do not go together; they discovered that drugs which at one time greatly stimulate the liver, do not produce this effect when purgation follows their administration—an observation which will be duly appreciated by the thoughtful physician, and which may, to some extent at least, explain the theory of the so-called double action of drugs.

Therapeutics.—In considering the uses of aloes and preparations thereof as purgatives, we must bear in mind the limited range to which they are adapted. For example, they cannot be expected to act as salines and remove liquids from the system; neither can they be given in such quantity that the temperature will be perceptibly lowered, unless, perhaps, by a mere coincidence, poisonous products should accidentally be carried off; and, finally, they do not lower the blood-pressure. There are two things, however, which they do accomplish, and thus fulfil an important function, viz., they assist materially in the removal of fecal matter from the intestinal tract, and they likewise increase the output of bile. While not the only indications for aloes, the above point to the most useful and generally accepted applications, and this drug thus becomes an important weapon in the hands of the physician for the relief of habitual constipation. To avoid griping, when aloes instead of aloin is used, hyoscyamus may be permitted to take the place of carminatives, and in case there is a demand for vascular stimulants or

stomachics, nux vomica and gentian may be added with advantage; if to this we add a substantial dose of ipecac, the combination will be most efficient in the form of a pill.

℞. Aloini..... gr. ij.
Ext. nucis vomicæ,
Ext. hyoscyami..... .....ãã gr. v.
Pulv. ipecac..... gr. x.
Ext. gentianæ ..... gr. xx.
M., et ft. pil. no. xx. Sig.: Take one pill at bed-hour, or twice daily if required (after meals).

In case a liquid preparation is preferred by the patient, and the constipation is attended with excessive dryness of the stools, the following may be used with very good effect:

℞. Tr. belladonnæ,
Tr. physostigmatis,
Tr. nucis vomicæ,
Ext. cascara sagrada.....ãã fl. ʒ ij.
Tr. aloes et myrrhæ.....q.s. ad fl. ʒ iij.
M. Sig.: Take a teaspoonful at bed-hour, gradually decreasing the dose.

The dinner-pill is highly prized by the English, owing to the slowness of action, about twelve hours being required, when a copious evacuation is produced and an overloaded colon relieved. Here the medicament is carried to the liver as digestion proceeds, the excretion of bile is augmented, and as a result, the intestinal digestion of fats and starchy products is more promptly carried forward. For this reason, perhaps, the use of aloes has been strongly recommended in the case of intestinal fermentation, with tumid abdomen and paresis of the muscular layer of the bowel. We can readily see how aloes prevents the development of these complications, and we are in a position to appreciate the empirical conclusions of earlier writers, who so strongly recommended the drug for the relief of complications in melancholic subjects.

To obtain the best effects of aloes upon the liver, however, purgative doses should be avoided, and, as a rule, it will be found that the small doses are more efficient than larger ones, while they show no tendency to set up irritation. The following formula, which depends for its activity upon the presence of aloes, I have used for the past six years for the relief of habitual constipation and that form of sick-headache which is so common among this class of people, both men and women. The original formula is one which was written for a patient, while on a visit to Wiesbaden, by a celebrated physician of that city, quite a number of years ago, and has never, so far as I am aware, been published. In order to distinguish it from other mixtures of the same character, I have usually referred to it as "The Wiesbaden Elixir," and can say candidly that it is a most efficient remedy, and is not especially objectionable to the palate. Possibly some enterprising pharmacist may deem it of sufficient value to put it in the form of a pill, when it may be found of sufficient importance to take a place side by side with Warburg's tincture:

℞. Spanish saffron..... ..... gr. xx.
Socotrine aloes,
Boletus laricis,
Powdered myrrh.....ãã ʒ j.
Powdered rhubarb,
Powdered angelica root
Zedoary root,
Gentian root,
Calamus root..... .....ãã ʒ ij.
Brandy, q.s. to make ..... flO ij.
M. Sig.: Eight or ten drops to be taken after meals, dropped on sugar, or mixed with brandy or wine. Cold water must not be taken with, or soon after, the medicine. As a purgative, half a teaspoonful may be taken at bed-hour, or twice daily, the dose to be gradually decreased as may be deemed advisable.

Running in parallel lines with the treatment of constipation, aloes is used to control diarrhœa of a dysenteric character accompanied by tenesmus, a condition well known to all who are subject to bilious attacks. These attacks simply indicate deficiency and irregularity of the hepatic excretion, generally accompanied by, or alternated with, constipation, a complication which aloes, in the form of the elixir mentioned, is well calculated to correct. Very often the appearance of hæmorrhoids succeeds attacks of congestion of the pelvic viscera, and notably after parturition, and here also aloes has been found serviceable when given in accordance with the indications heretofore advanced. This drug, however, cannot be expected to accomplish much without due allowance being made for the various functional derangements which contribute to favor the development, and it is in this particular rôle that the elixir seems to overcome the complications.

It is said of Oppolzer, that he acquired great reputation for the successful treatment of habitual constipation, although he had but two formulæ: one when constipation coexisted, the other without constipation. In the first class of cases, quinine was added to the aloes, in the latter, iron; and the following is offered as an explanation of the phenomena: quinine in considerable doses acts as a hepatic stimulant, increasing decidedly the discharge of bile, which relieves the portal congestion, and contributes materially toward re-establishing a healthy condition of the pelvic circulation. In the absence of constipation, stimulation of the liver is not demanded, but with the addition of iron the quality of the blood is improved, and it doubtless acts in the capacity of an astringent to the mucous structures of the alimentary tract. Such persons show a greater or less tendency to subacute and chronic rheumatic troubles, and it will be advisable therefore to combine with the aloes and iron small doses of rhus toxicodendron, in the form of the tincture made from the fresh leaves.

℞. Tr. aloes et myrrhæ ..... fl. ʒ j.
Tr. rhois toxicodendri..... gtt. xij.
Vini ferri amaræ..... ... q. s. ad fl. ʒ iij.
M. Sig.: Take one teaspoonful in a little water about half an hour after meals.

Where we have to deal with hæmorrhoids, and aloes preparations are indicated, it will be advisable to combine with them half-drop doses of the tincture of rhus, for the purpose of relieving the tenesmus, and assisting in meeting the demand for anodynes to overcome pain. Hæmorrhoids are often due to a costive habit and straining at stool, and will quickly disappear on judicious employment of a suitable laxative, and the adoption of a selected dietary. Small doses of aloes are beneficial when there is no active inflammatory action in progress, but large doses are always injurious.

Basing our estimate upon the foregoing premises, aloes would naturally be considered a suitable remedy for the treatment of certain forms of jaundice, but more especially those cases where hypochondriasis is a prominent factor; but discretion must be exercised in order that the medicament reaches the liver and is excreted with the bile, or, as previously suggested, it may be given in combination with ox-gall.

Providing there exists no contra-indication, aloes may be used for the expulsion of ascarides, but in all cases we must consider the decided influence which will be produced upon the uterus, as it has been known to cause abortion. In amenorrhœa aloes is a popular remedy, but it should be used only near the expected time of menstrual molimen, and then in the cases where there is an entire absence of rectal irritation. A combination can be made with myrrh, but aloes is contra-indicated in cases of suspected pregnancy. In the treatment of menorrhagia by the exhibition of aloes, iron is always indicated, tonics being often of more value than purgatives, while appropriate hygienic regulations must be insisted upon.

1910 Arch Street.

AN UNUSUAL CASE OF SHOCK FOLLOWING CONCUSSION OF THE LUMBAR SPINE.

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By permission of Dr. Charles McBurney the following abstract has been made from the history of a case of shock and spinal injury recorded during my service on Dr. McBurney's house-staff at the Roosevelt Hospital in New York. The case derives interest from probable dependence of the primary symptoms upon concussion of lumbar sympathetic ganglia through the spine.

On March 7, 1889, a boy, thirteen years of age, while at play in the streets of New York, was struck on the back by a short iron-loaded whipstock thrown at him a distance of a few feet by a boy eight years of age. The loaded end of the whipstock seemed to have struck a whirling blow upon the spine. The blow, of which the patient had subsequently a distinct remembrance, caused little or no immediate pain. Disinterested persons witnessed the occurrence. In the boy's words, his "head swam" instantly. He staggered and was caught in the arms of a bystander. Unconsciousness and collapse supervened. An apothecary, hastily called to the boy's aid, made note of his condition, and remarked especially extreme dilatation of the pupils. Dr. Robert A. Sands, surgeon in charge of an ambulance summoned from Roosevelt Hospital, found the patient, ten or fifteen minutes after injury, unconscious, with blanched skin, feeble pulse, pulse-rate eighty-five per minute, breathing shallow, quiet, normal in frequency, pupils slightly dilated and slowly responsive to light, voluntary muscles flaccid, patellar reflexes absent, no muscular movements to be elicited by pinching the skin of the extremities or by pressure upon the ulnar and supra-orbital nerves; the reflexes connected with deglutition, however, still responsive, as the patient swallowed half an ounce of whiskey slowly poured into his mouth.

A few minutes later, after his admission to the hospital, I found the patient unconscious, his skin cold and pale, pupils contracted and irresponsive to variations of light, eyes rotated downward to the left, having short horizontal movements of nystagmus. Otherwise his condition was as described above. No appreciable external lesion existed. The aspect of the patient was that of one in extreme shock.

The patient having been put to bed and warmth applied to the body-surface by means of hot bottles, his pulse soon became fuller, remaining slow, his skin flushed. Twenty minutes after admission he could be partly aroused; three-quarters of an hour after admission he completely regained consciousness. Acute tenderness on pressure was then found over the spines of the third and fourth lumbar vertebræ, at which place the patient located the impact of the blow; no crepitus, deformity, ecchymosis, or swelling could be detected there. No symptoms of any head-lesion and no paralysis of voluntary muscles existed.

Not long after the patient slept naturally and soundly. When he awoke, ten hours later, he at once sat up in bed, having no pain in movements of the body. The right patellar reflex was then present, the left absent; the cremasteric reflexes were vigorous. Fæces and urine were passed normally twelve hours after the accident.

Secondary symptoms developed twenty hours after receipt of the injury. A small area of cutaneous hyperæsthesia was then found over the left anterior superior spine of the ilium, in the distribution of the ilio-hypogastric nerve. The point of injury over the third and fourth lumbar vertebræ remained very tender to pressure, in addition to which there was some tenderness on pressure over the spines of the vertebræ from the fifth lumbar to the fifth dorsal, more acute above, where it abruptly terminated. Counter-irritation over the vertebral column was applied by sinapisms, and absolute rest enjoined. On the following day the tenderness over the vertebral spines had extended to the second dorsal. Sinapisms were repeated. An area of cutaneous hyperæsthesia appeared located in the right scapular region, also a narrow area to the left of the vertebral column in the lumbar and lower dorsal regions, and two areas symmetrically disposed one on either side of the vertebral column at the level of the fifth lumbar vertebra. At the same time the area above the left anterior iliac spine had spread so as to embrace a tract of integument reaching above and below Poupart's ligament from the iliac spine to the scrotum, in the distribution conjointly of the ilio-inguinal and ilio-hypogastric nerves; this area was sharply defined. In the course of four days thereafter the dorsal hyperæsthesia extended, mainly in tracts to the right of the lumbar and dorsal vertebræ.

The patient's general condition after the first was excellent. His temperature never exceeded 99° F. He availed himself surreptitiously of all opportunities to sit up in bed, being far from complaining or imaginative, and he wished only to return to freedom and sport.

On the sixth day recession at the boundaries of the hyperæsthetic areas began. On the eighth day slight tenderness on pressure over the vertebral spines still existed from the fifth lumbar upward as high as the second dorsal, being most marked at its terminal limits. On the ninth day no tenderness remained and the patient was allowed to leave his bed. Cutaneous hyperæsthesia disappeared. On the eleventh day, no symptoms returning, he was discharged from hospital Two weeks longer he remained under observation without symptoms.

The boy had no history of hysteria or syncope. At the time of the accident he was strong and well.

100 WEST SEVENTY-EIGHTH STREET.

Clinical Department.

IMPERFORATE HYMEN—PREGNANCY AND OPERATION.

By CHEVES BEVILL, M.D.,

WINFIELD, ARK.

On November 12, 1887, I was called in consultation to see a girl a few months over fourteen years of age, who had been suffering great pain for four days with, what was thought by the attending physician to be, inflammation of the bladder and prolapsus uteri.

The pains came on at regular intervals, and I found upon an examination that the hymen was distended to its fullest extent, bulging the perineum like the advancing fœtal head. A soma in the bladder and the rectal touch revealed the presence of fluid. The membrane was punctured with a sharp-pointed bistoury, and the retained menstrual fluid came with a rush. Three half-pints were allowed to escape, and then I plugged the opening with carbolized lint. The lint came out three hours later, and fully as much more fluid escaped, but the patient was so weak that I thought best not to make the opening as large as it should have been.

The patient recovered, menstruated regularly, and grew to womanhood in a few months.

She married in the summer of 1889, and last June (1890) I was again consulted in regard to her condition, as she was pregnant, and the hymen was still imperforate, so far as its original condition was concerned. I advised its removal at the end of the seventh month of pregnancy.

On July 7, 1890, the thick membrane was removed. The hymen could be pushed back for two and one-half inches. The original opening was less than one-eighth of an inch in length. The membrane was pulled down with a blunt hook and removed with a Sims curved scissors. The membrane was fully one-sixteenth of an inch in thickness. After the membrane was removed, I introduced a Hale speculum and spread the vagina to a con-

siderable degree. The bleeding was but little; carbolized vaseline on cotton (absorbent) was used to keep the edges from adhering. The patient made a rapid recovery, was up in one week, went to term, and labor was completed, September 10th, without any further trouble.

I report this case from the fact that such cases are rare. I have no recollection of seeing a case reported just like the above, as they generally go on until labor has begun, and the physician has to operate at that time—which I think is attended with more danger than prior to full term. And furthermore, such cases, if they occur, are rarely ever reported from the back woods.

Cazeaux and Faner, as well as Charpentier, in their great works on obstetrics, only speak of the hymen being operated upon at the time that labor has begun.

November 10, 1890.

SOME OBSERVATIONS ON THE USE OF APOMORPHINE

By J. S HORSLEY, M.D.,

WEST POINT, GA.

CASE I.—In August, 1889, Mrs. N——, aged twenty-two, mother of four children, had a very severe attack of sick-headache. The attack began early in the morning, getting worse as the day advanced. I saw her at 3 P.M., suffering intense pain in the head, and down the spine. She said she felt as if a cord extended the whole length of the spine, and was becoming too short, so that her head was being drawn backward with each paroxysm of suffering. The pain is very severe all the time, but every few minutes a paroxysm of intense suffering comes on, which almost induces convulsions. During the paroxysm the head is drawn backward, the thumbs drawn across the palms, and the whole arm rotated inward, pupils dilated. As the stomach seemed to be somewhat distended, I gave an emetic, ten grains of powdered ipecac in a tumblerful of warm water; after half an hour, there being no nausea, and the pain appearing to be more severe, ten grains more of ipecac, with the addition of a teaspoonful of bicarbonate of soda, was given. Waiting on this fifteen minutes, there still being no nausea, and thinking that an irritant emetic might be more prompt, I gave her a teaspoonful of ground mustard in a tumblerful of warm water. After again waiting fifteen minutes with no nausea, the patient's sufferings increased to such a degree that convulsions seemed imminent, I decided to use, and gave, one-tenth grain apomorphine mur. subcutaneously. Free emesis occurred in about five minutes, with immediate subsidence of all the trouble. The patient vomited what had been eaten at dinner the day before. I have treated this patient in several similar attacks since, giving apomorphine at once, with prompt relief.

CASE II.—Mr. C——, Irish, aged about forty-five, a hard drinker, in January, 1890, took by mistake, or with suicidal intent, about one and one-half ounce of vinegar in which he had previously dissolved some strychnine. He claimed to have taken about half the contents of the bottle. One and one-half ounce remained in the bottle. I could not ascertain exactly the amount of strychnine dissolved in the vinegar; however, he used all that he procured from the druggist. The strychnine was purchased several months previous, and the druggist who furnished him lost his poison-book by fire, but thought the amount was either three or five grains.

Mr. C——'s family were not at home when he took the strychnine, and it is not known at what hour he took it, or at what time the first symptoms were manifested. I saw him at 6 P.M. A physician who happened to be passing had been called in, and had given him a hypodermic injection of morphine $\frac{1}{4}$ gr., atropine $\frac{1}{150}$ gr., about fifteen minutes before my arrival. Having treated this patient on a former occasion for an attack of suspended animation which I thought largely due to some gastric derangement, and thinking that this might be a similar case with the variations, I at once gave subcutaneously $\frac{1}{15}$ gr. apomorphine mur., which was followed in five minutes by ineffectual efforts at vomiting, and complete cessation of the spasms which had been recurring at very short intervals, the patient semi-conscious during the attack, partially asphyxiated. The patient had but one spasm after my arrival, before he was relieved by the apomorphine. Still thinking that there must be something in the stomach which caused the trouble, I decided to use the stomach-pump, which I sent for. At 7.30 P.M., with the assistance of Dr. G. H. Winston, I made several unsuccessful attempts to pass the tube, spasm of the parts preventing. The patient now began to have recurrence of spasms, the character of which led me to suspect strychnine poisoning. While recurring at short intervals, the spasms could be provoked by sudden noise, or by slapping him. Morphine and atropia were again administered subcutaneously; but after waiting a few minutes, and seeing no abatement of the symptoms, at 8 P.M. he was given $\frac{1}{15}$ gr. apomorphine. Spasms ceased at once, some nausea but no effort to vomit followed the dose. Patient's urine was now drawn with a catheter and set aside with a view to testing for strychnine. The patient was given 2 oz. castor-oil, and the dose repeated after an hour. At 11 P.M. he was still resting quietly. At twelve o'clock the spasms recurred, of a character more severe than before, and death by asphyxia seemed imminent. Apomorphine gr. $\frac{1}{8}$, was given, which at once arrested the spasms, but caused no attempt at vomiting; he did not complain of nausea. At 1 A.M. he was resting well.

Very soon the patient asked for some melted hog's lard, of which he drank a teacupful. Very soon thereafter his bowels acted freely. He rested well the remainder of the night. There was no recurrence of spasms after twelve o'clock. Dr. G. H. Winston tested the urine drawn with the catheter, and found unmistakable evidence of strychnine. Two days later patient made confession of taking strychnine, and gave me the bottle containing the residue. This solution was also tested, and found to contain strychnine.

This patient has since committed suicide by the pistol route, making it probable that suicide was intended before.

CASE III.—Mrs.——, aged twenty, mother of one child about eighteen months old, has not been in good health since the birth of her child. Was called to see her in June, 1890, on account of a violent attack of palpitation of the heart, with great dyspnœa. She had had several attacks of this character before.

She was given subcutaneously one-twentieth grain apomorphine. Vomiting of undigested food followed in five minutes, together with relief of her distress.

CASE IV.—Mr. J. T——, aged twenty-three, had an aching tooth, took two drinks of mean whiskey, and repaired to the dentist, where his tooth was extracted. He returned home, five miles into the country, very much intoxicated. At 6 o'clock P.M. he put his head into a tub of cool water, and fell over with a convulsion, which his excited friends said lasted fully fifteen minutes before he breathed freely. The spasms were repeated at short intervals until I saw him at 11 P.M. He was at once given subcutaneously one-twentieth grain apomorphine. The spasms ceased, and did not return. Slight nausea but no emesis followed this dose.

Other cases could I mention illustrative of the beneficial effects of apomorphine, but I think the cases cited sufficient to present this new use of the remedy; that of preventing and controlling convulsions, and other motor disturbances. I have seen so little written on the uses of apomorphine, and that usually in relation to its action as an emetic, that I conclude that it is not appreciated at its full value by the profession. The works on materia medica and therapeutics in my collection—Brunton, Bartholow, Potter, and Trousseau, while noticing other uses of apomorphine, treat of it principally in relation to its action as an emetic.

I have not been able to find any report of the use of apomorphine in motor disturbances for other than the relief to be expected from emptying the stomach, except a case in which a German physician succeeded in cutting short epileptic attacks by the subcutaneous injection of apomorphine during the aura. See MEDICAL RECORD, November, 1884, p. 598. Dr. Edward Cockrell, of England, is reported to have successfully treated infantile convulsions by its use; see MEDICAL RECORD, May, 1884, p. 544. It is not stated whether the convulsions resulted from gastric disturbance or not; but as that is the usual cause of convulsions in children, we may suppose that its emetic action was sought in this case. I think it will be found that the remedy has hitherto been used principally for its emetic action. That certainly was my object in using it, until I accidentally found that it controlled the spasms produced by strychnine poisoning. Since that time I have been using apomorphine for all convulsions, and in no case have I yet been disappointed as to the result.

Of the action of apomorphine as an emetic, expectorant, or local anæsthetic, it is not my purpose to treat in this article; but to especially call attention to the facts here given, that it does arrest or prevent spasms and other motor disturbances. From the results obtained from its use in my limited experience, I would confidently expect it to control any spasm not caused by lesion of the brain or spinal cord. I am not yet prepared to defend any special theory to account for the relief afforded in these cases; but I think that its depressive action on the motor centres, at the same time that it excites the vomiting centre, may relieve general convulsions by substituting a partial vomiting. But whether we are able to satisfactorily explain the modus operandi or not, we have the facts to sustain the assertion that it does arrest spasm when present, and prevent it when about to occur.

It is quite probable that this remedy will be of service in controlling the spasms during an attack of tetanus or rabies. I have had no opportunity of testing its value in either case, but from the analogy existing between these affections and poisoning by strychnine, I think we might reasonably give it a trial in these affections.

I have used the remedy in quite a number of minor hysterical phenomena, and one case of convulsions of that character, with prompt relief. I have had no case of puerperal eclampsia since I began the use of this remedy, and am not able to report its effects in that dreaded affection; though its use has arrested symptoms which led me to expect an attack.

My use of apomorphine has been in doses ranging from one-eighth to one-twentieth grain, and has been uniformly by subcutaneous injection, except in one case, as an expectorant, with not better results than might be expected from other remedies of that class. I have in no case witnessed alarming symptoms from its administration. That its use is attended with danger in certain cases is too well attested to require comment.

Micro-organism in Salpingitis.—Dr. Coplin announces the discovery of a coccus very constantly present in salpingitis. The growth is in zoöglœa masses, abundantly present in the lymph spaces of the tube wall. The coccus is not in the cavity of the tube, and cannot be demonstrated in the caseous contents of the tube, nor in mucopurulent material found in its lumen. It is entirely different from the coccus of gonorrhœa, and will not stain with the ordinary methods used for demonstrating the coccus of suppuration and gonorrhœa. It withstands the prolonged action of concentrated acetic acid when stained with saturated solution of methyl violet in aniline-oil water, but bleaches rapidly by any of the mineral acids in ever so weak solutions. Dr. Coplin is at present investigating these micro-organisms and expects to demonstrate their pathogenic character.—*College and Clinical Record.*

Progress of Medical Science.

The Differential Diagnosis of Anæmia.—True anæmia signifies a reduction in the quantity of blood. It occurs in an acute manner after hemorrhages, or it may be chronic as a manifestation of emaciation of the organism. Quantitative anæmia is characterized by pallor, although the latter symptom may be present even when the blood is qualitatively and quantitatively normal. This latter condition is present in syncope, where the patient has not lost a drop of blood, but bleeds, says Dr. Neusser, "in his own abdomen," the cutaneous vessels being contracted and the intestinal dilated. In collapse an anæmia similar to that of syncope is present. The former are considered by Neusser as prototypes of acute pseudo-anæmia, and are to be differentiated from chronic pseudo anæmia, which originates in an irregular distribution of blood, as in exophthalmic goitre and the so-called nervous anæmia attended by violent pulsations of the aorta. A form of true anæmia attended with qualitative changes of the blood is chlorosis. Chlorosis is characterized by a diminution of the coloring matter of the blood, the red corpuscles not being diminished in number. The pronounced anæmia of the mucous membranes and the skin and the fugacious œdema are not pathognomonic of chlorosis, being also present in post-hemorrhagic anæmia. Dyspeptic chlorosis is referred to as anæmia accompanied by gastric disturbances, the latter being symptomatically most prominent. Gastric disturbances are nearly always present in chlorosis, and are characterized either by chemical or mechanical functional disturbances of the stomach. The chemical disturbances result in either increased or diminished acidity of the gastric secretion, the latter prevailing. In some cases hydrochloric acid may be entirely absent. This latter condition is also present in atrophy of the gastric glands, pernicious anæmia, and carcinoma of the stomach, thus making the differential diagnosis often difficult. In carcinoma of the stomach, the contents nearly always show an acid reaction due to the presence of lactic acid, notwithstanding the absence of hydrochloric acid, and the quantity of pepsin is diminished. In the dyspeptic forms of chlorosis, on the contrary, notwithstanding the absence of hydrochloric acid, pepsin and peptones are always present. Regarding treatment, Neusser says that many cases are cured by simple iron treatment, whereas in others, not only is the iron badly tolerated, but it intensifies the gastric disturbances. The intolerance of many forms of dyspeptic chlorosis for iron may be removed by previous inhalations of oxygen, of which large quantities must be used. He begins with 50 quarts daily, and quickly increases this to from 100 to 200 quarts. Crude and desiccated blood have been employed in the treatment, and although he has used them, they were discontinued in consequence of diarrhœa being developed. From many sources it has been observed that in patients with chlorosis, who could not tolerate any preparation of iron, the ingestion of large quantities of raw meat was attended with successful results. This latter method seems in no wise irrational, as when raw meat is consumed the iron is introduced in the form of hæmoglobin, which is at once taken up by the circulation. The objections to it are the obnoxiousness of raw meat to many patients, and the danger of tænia. Aside from the objections already cited, the meat diet is often contraindicated in those cases attended by *fetor ex ore*. The odor is largely derived from scatal, a ptomaine derived from animal food, and for this reason an absolutely vegetable diet is indicated. —*Occidental Medical Times.*

Dr. O. W. Holmes says it is not true. The poet-physician has had it brought to his notice that a learned small girl of Boston has spoken of him as having been for many years a "Professor of Monotony at Harvard University."—*Maryland Medical Journal.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, December 6, 1890.

THE CURABILITY OF GALLOPING CONSUMPTION.

THE announcement by so well-known a physician as Dr. McCall Anderson that acute phthisis, or galloping consumption, is curable, excites a good deal of surprise and quite as much incredulity, yet Dr. Anderson reports in the *British Medical Journal* seven cases of this character, of which five recovered.

Acute phthisis is considered by Dr. Anderson to have two forms, acute tuberculosis and acute pneumonic phthisis. Some of his cured cases were of the tubercular character. The treatment advised is given in detail and contains no especially new feature.

"The principal indications," he says, "are: 1, to keep up the strength; 2, to keep down the fever; and 3, to treat any special symptom or complication which may arise.

"1. Two thoroughly-trained and reliable nurses are indispensable, one for day and the other for night duty; for without admirable nursing no hope of improvement can be entertained; and the hygienic and other surroundings of the patient should be satisfactory, so that we need not be surprised that, when the disease occurs in the homes of the working classes it is almost necessarily fatal, and that hospital patients have the best chance of recovery. The patient must be fed constantly on fluid food (soup being avoided if diarrhœa is present) both day and night, and stimulants (from ℥ ij. to ℥ x.) are required early in the attack, but should be given in small quantities, frequently repeated and along with the food. In fact, the dietetic treatment should correspond with that of a case of fever presenting symptoms of a similar degree of severity.

"2. At bedtime a subcutaneous injection of sulphate of atropine (gr. $\frac{1}{100}$ to gr. $\frac{1}{60}$) is given. This checks perspiration when present, acts as a sedative to the system, indirectly helps to reduce the fever, and diminishes the secretion from the lungs.

"3. Remedies are given with the view of lowering the temperature. This is a point of the utmost consequence, because the majority of the patients die consumed by the fever. Some benefit is derived by allowing the sufferer to suck ice freely, by giving the food and drinks iced, by sponging the body with iced vinegar and water, or even by using iced enemata. But our main reliance is upon one or more of the following methods:

"(*a*) Niemeyer's antipyretic pill or powder every four hours, containing gr. j. quinine, gr. ½ to gr. j. digitalis, and gr. ¼ to gr. ½ opium. The proportion of opium may even have to be increased beyond this if there is much diarrhœa. The effect of the digitalis must be carefully watched, and it must be omitted for a time if the pulse becomes preternaturally slow and irregular and the secretion of urine very scanty.

"(*b*) The administration daily—particularly shortly before the temperature tends to be highest—of from ten to thirty grains of quinine, given, as suggested by Liebermeister, either in a single dose or, at all events, within an hour.

"(*c*) The application of iced cloths to the abdomen for half an hour every two hours so long as the temperature exceeds 100°. The application of iced cloths is made in this way:

"The night-dress is pulled well up over the chest so as to avoid any possibility of its being wet, and, for a similar reason, a folded blanket is placed across the bed under the patient's body. The usual bedclothes are arranged so that they reach up to the lower part of the chest only, which latter is covered by a separate blanket in order to prevent unnecessary exposure while the cloths are being changed. Two pieces of flannel are employed, each being sufficiently large when folded into four layers to cover the whole of the front and sides of the abdomen. One of these, wrung out of iced water and covered with a piece of dry flannel to protect the bedclothes, is applied, while the other is lying in a tub of iced water at the side of the bed. The pieces of flannel are changed every minute, or so often that they still feel cold when they are removed. The changing of the flannel, particularly when two persons are in attendance, one to remove the bedclothes and the flannel, the other to apply the piece which is freshly iced, can be accomplished in a few seconds."

THE MORBID ANATOMY OF DIABETES MELLITUS.

IT is only within a comparatively recent period that much study has been devoted to the pathological findings in diabetes, and our knowledge on the subject may be said to be, even yet, very rudimentary. The teachings of different authorities are by no means in accord, and it is difficult for the inquiring student to find any satisfactory presentation of the subject. An excellent summary of our present knowledge concerning the morbid anatomy of this disease was given by Dr. Robert Saundby in the "Bradshaw Lecture" delivered in London in the latter part of last August.

The lecturer began his review with the lesions of the nervous system. He believed that the brain was seldom normal. This belief, although at variance with the mass of accumulated testimony, was, nevertheless, in harmony with the more recent observations. Many of the changes found in this organ are not peculiar to diabetes and must be regarded as purely accidental, yet in a few cases localized lesions of more or less importance have been noted. Among the most significant of these are tumors in the fourth ventricle and medulla. In many of these cases there could be no doubt, in the speaker's opinion, of the direct dependence of diabetes upon the new growth. There is

apparently a tendency in the diabetic brain to the formation of cysts in the white substance, but hemorrhage does not seem to be a constant, or even a common, lesion. In a certain number of cases diabetes has very evidently resulted from the extension of diseased processes from the spinal cord into the medulla, as in locomotor ataxia and insular sclerosis. Not infrequently, also, this disease has followed injuries to the cord, and Schiff has shown that glycosuria may be produced artificially by section of the cord opposite the second dorsal vertebra. In some cases in which the cord seemed to be normal a careful examination had usually revealed the presence of nutritive changes similar to those found in many instances in the brain. Three cases have been observed in which diabetes mellitus was associated with tumors compressing the vagus nerve. These cases are interesting in connection with recent experiments showing that the disease may follow an artificially induced neuritis of the central end of the divided vagus, a similar lesion of the peripheral end causing polyuria, wasting, boulimia, and excessive thirst. Glycosuria has also been induced by an artificial neuritis of the roots of the first pair of spinal nerves. On the other hand, clinical observation has revealed the existence of a secondary diabetic neuritis. Enlargement and thickening of the sympathetic nerves and ganglia have been observed, and Dr. Saundby had himself found the semilunar ganglia enlarged in three cases, and in one there was atrophy of the nerve-cells associated with increase in the amount of connective tissue. Hale White has recently described four cases in which similar lesions were found, though, on the other hand, Shingleton Smith has made numerous examinations of the sympathetic ganglia in glycosuria without being able to find any definite or uniform lesion. The lecturer had also had three cases in which no changes could be discovered in the semilunar ganglia, although he had never found these ganglia altered when diabetes was not present.

There seems to be no constant or characteristic lesion of the heart in diabetes. Pericarditis is occasionally found, but valvular lesions are quite exceptional. The blood commonly presents a normal appearance to the naked eye, though occasionally it is dark, and in some cases very obviously loaded with fat. The red corpuscles are very often reduced in number and there is then a corresponding reduction in the amount of hæmoglobin. The alkalinity of the blood serum is reduced. As to the presence of acetone there are many conflicting statements, and the lecturer said that his own experiments, conducted some years ago with a view to determine this point, had given negative results.

Pathological alterations in the lungs may be said to be the rule in diabetes, and in perhaps no other organ are changes more constantly found. The most common condition is congestion, or congestion with œdema, the next most frequent complication being phthisis, while pleurisy and empyema are of comparatively rare occurrence. The vessels of the lungs have been described as undergoing hyaline and fibroid thickening, but this is not a primary change, nor can it be considered as in any way peculiar to diabetes.

Dr. Saundby was inclined to regard as erroneous the opinion, at one time pretty generally held, that the liver is healthy in those suffering from diabetes mellitus. He had usually found the organ enlarged, though occasionally smaller than normal. Fatty degeneration was, in his experience, very common, and the organ was sometimes markedly congested. Frequently there was a certain amount of interstitial hepatitis which occasionally went on to distinct cirrhosis. This form of cirrhosis was commonly associated with bronzing of the skin, though there might be no deposit of pigment either in the integument or in the liver itself. Notwithstanding its usual fatty appearance, Weil and Abt had not found that the diabetic liver contained an undue amount of fat.

The spleen has frequently been described as normal; the most common naked-eye change, when any is present, being that the organ is pale, small, and soft. Glycogen has been found in it.

Since Lancereaux drew attention to the frequency with which the pancreas is atrophied, going so far even as to associate the clinical type of *diabète maigre* with this lesion, much interest has been taken in the study of the changes in that organ. And this interest has been even greater since the investigations of Minkowski, Lépine, and others have shown that glycosuria followed the extirpation of the pancreas in animals. The results of these experiments have received some clinical confirmation in the case of Dr. William T. Bull's patient, who died from diabetes after extirpation of the pancreas. As far as Dr. Saundby's own experience went, he was disposed to agree with Lancereaux, as he had found a shrunken pancreas in all his own cases of typical wasting diabetes. Duffey has reported a case of diabetes associated with pancreatic carcinoma. On the other hand, Handfield Jones, and, more recently, Norman Moore, have collected reports of many cases of pancreatic disease in which no mention was made of diabetes. It has been suggested that atrophy of the pancreas may be secondary to disease of the cœliac plexus, yet Lustig has extirpated this plexus without producing any atrophy of the organ.

Various morbid changes have been noted in the stomach, and in only one case out of eleven had the lecturer found this viscus normal. Congestion or catarrhal conditions of the intestinal mucous membrane are not at all uncommon.

In every one of Dr. Saundby's cases lesions of one sort or another were found in the kidneys, though in many the changes were apparently of no great significance. The most common condition appeared to be a slight degree of fatty degeneration. Such kidneys were most commonly enlarged, their capsules being often adherent; less frequently they were congested. The most interesting microscopic lesion found in the diabetic kidney is hyaline degeneration of the tubular epithelium, first described by Armauni, and confirmed later by Ebstein. The latter located the seat of the lesion in the descending limb of Henle's tubes, and regarded the change as characteristic of, and peculiar to, diabetes mellitus. In some cases, chronic diffuse nephritis is present.

The bladder is usually normal, yet not very infrequently is dilated and hypertrophied, the mucous lining being occasionally the seat of hemorrhages.

This brief review of the various lesions associated with diabetes mellitus would seem to show that the disease, so far from having no morbid anatomy, has one of a very complicated kind, and one, the lecturer thought, that

must necessarily have some bearing on its pathology. The wasting of the pancreas is perhaps the most important lesion, but a more careful study of the lesions of this organ in a larger series of cases is necessary before we shall be in a position to estimate their real value. The changes in the abdominal sympathetic may also be found to possess great importance, but they are too inconstant to form as yet the basis of any satisfactory theory. The liver changes, Dr. Saundby thought, are probably altogether secondary to functional hyperæmia, and the other lesions in the heart, lungs, kidneys, and brain are, in all probability, merely the results of defective nutrition, and of long-standing hyperglycæmia.

VIVISECTION AND EXPERIMENTAL SURGERY.

It is to be hoped that public opinion will not be unduly disturbed upon the subject of vivisection until the exact merits of the case of the boy and the dog have been decided. This case, through the enterprise of the daily press, and without, we are assured and believe, the connivance of the surgeon, has been widely advertised during the past two weeks. Dr. Phelps, having a patient with an ununited fracture of the tibia, which had failed to heal under the ordinary methods, undertook to transplant the bones from the foreleg of a dog into the leg of the patient. The dog necessarily had to be bound up in plaster of Paris, and to be kept in an uncomfortable position for a long time. The animal was given morphine, however, *pro re nata*, and apparently suffered very little. The main question is whether the operation was wisely conceived and necessary, and was finally satisfactory in its results. From the well-known character and reputation of Dr. Phelps we feel assured that his work in this case was scientific as well as original, and we are informed that it was entirely successful. The restoration to usefulness of a cripple and the establishment of a physiological fact of practical surgical importance is certainly worth two weeks of discomfort and even maiming of a city cur, whose ultimate end would be slow starvation, and the pound.

News of the Week.

Suit Against a Hospital.—In a suit for $15,000 damages recently brought against the Manhattan Eye and Ear Hospital, Judge Lawrence rendered the following decision in favor of the defendant: "It is well settled that a corporation established for the maintenance of a public charitable hospital, which has exercised due care in the selection of its agents, is not liable for injury to a patient caused by their negligence (McDonald *v.* The Massachusetts General Hospital, 120 Mass., p. 432; Fir-Ins. Patrol *v.* Boyd, 120 Penn., p. 624; Proctor *v.* Manhattan Eye and Ear Hospital, reported in Medical Record, vol. xv., No. 25). In the complaint in this action there is no allegation that the defendant failed to exercise due care in the selection of its house surgeon, nor that he was not perfectly competent and skilful in his profession. It follows, therefore, that there should be judgment for the defendant upon the demurrer, with leave to the plaintiff to amend, on payment of costs."

The Intelligent Foreigner on British Piety.—According to the *Zeitschrift des Oesterr. Apoth. Vereins*, a special prayer-book for medical men has just been published in England. It contains a selection of suitable prayers for delivery on the occasion of surgical and other operations. There should be a companion prayer-book for the patient.

Dr. Otis and American Art.—The following note from the daily *Times* will doubtless interest our readers: "The departure of Dr. Fessenden N. Otis, of this city, for Europe, in search of health, is quickly followed by the sale of his collection of modern paintings and Japanese bronzes already announced. They will be sold at the Fifth Avenue Art Galleries on the evenings of Thursday and Friday, December 4th and 5th. While the collection of Dr. Otis is neither so large nor so valuable as many others in the city, special circumstances make this sale one of the most notable of those during the last ten years. For Dr. Otis bought American pictures, and his collection brings to light names which have long ceased to be seen on the catalogues of the Academy, or heard from the lips of an auctioneer."

Bogus Medical Colleges in Vermont.—Vermont is earning an unenviable reputation for its bogus medical college industries. An attempt has been made to put a stop to it, but the bill drawn up for this purpose recently failed to pass. The *Vermont Standard* says very pertinently, "there is no point on which gentlemen are so sensitive as in the matter of taking any steps which may look like abridging their liberties in the way of being humbugged."

Free Public Baths.—The Association for Improving the Condition of the Poor has undertaken the erection of free public baths. The building for the purpose will have a large reading room, with an open fireplace, and twenty-four large apartments for the bathers. There are to be no plunge baths or tubs, the society believing that for the better preservation of the health of the patrons shower or spray baths should be provided. Each apartment is to have a subdivision, to be used as a dressing room. The baths will be open to women on three days a week and to men on three days. Tickets, calling for a towel and a cake of soap, will be sold at five cents each, and they will be distributed or sold in various parts of the city. Hot coffee will be given to those who desire it on leaving the bath in the winter months. It is estimated that one thousand persons can bathe each day. Much credit is due to Dr. S. Baruch, of this city, for his earnest agitation of this subject.

The Mattison Prize—Opium Addiction as Related to Renal Disease—A Prize of Four Hundred Dollars.—With the object of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn, offers a prize of $400 for the best paper on "Opium Addiction as Related to Renal Disease," based upon these queries: Will the habitual use of opium, in any form, produce organic renal disease? If so, what lesion is most likely? What is the rationale? The contest is to be open for two years from December 1, 1890, to either sex, and any school or language. The prize paper is to belong to the American Association for the Cure of Inebriety, and be published in a New York medical journal,

Brooklyn Medical Journal and *Journal of Inebriety.* Other papers presented are to be published in some leading medical journal, as their authors may select. All papers are to be in possession of the Chairman of Award Committee, on or before January 1, 1893. The Committee of Award will consist of Dr. Alfred L. Loomis, President New York Academy of Medicine, Chairman; Drs. H. F. Formad, Philadelphia; Ezra H. Wilson, Brooklyn; Geo. F. Shrady, and Jos. H. Raymond, editor *Brooklyn Medical Journal.*

For the Treatment of Enuresis in children, Dr. Kupke recommends very highly fluid extract of rhus aromatica (sweet sumach), in doses of five to fifteen drops.

Surgeon-General Baxter.—We learn with profound regret that Surgeon-General J. H. Baxter was stricken with paralysis on December 1st, and at the present time of writing is hardly expected to live.

Macon County (Ga.) Medical Society.—On the evening of the 18th inst., the following were elected officers of the Macon (Ga.) Medical Society: *President*—Dr. R. O. Cotter; *Vice-President*—Dr. H. J. Williams; *Secretary and Treasurer*—Dr. H. P. Derry; *Corresponding Secretary*—Dr. H. McHatton.

Removal of the Gasserian Ganglion for Neuralgia.—Mr. William Rose, Surgeon to King's College Hospital, recently reported to the Medical Society of London the successful removal of the Gasserian ganglion for persistent neuralgia.

Washington Obstetrical and Gynecological Society.—At the annual meeting of the Washington Obstetrical and Gynecological Society, the following officers were elected for the ensuing term: *President*—W. W. Johnston, M.D.; *Vice-President*—D. W. Prentiss, M.D., and H. L. E. Johnson, M.D.; *Recording Secretary*—H. B. Deale, M.D.; *Treasurer*—George Byrd Harrison, M.D.; *Corresponding Secretary*—G. Wythe Cook, M.D.

New Hospital in Norwich, Conn.—Norwich is to have a new hospital. Two citizens have given $100,000 and $50,000 respectively, and the property has been purchased.

Deaths from Phthisis.—In the last ten years there have been 52,160 deaths from phthisis in this city, or 14.12 per cent. of the total deaths.

Dr. John T. Howe, after an illness of two months, died on December 1st in his apartments in this city, Twenty-fourth Street. He was born in Chatham, N. B., twenty-nine years ago, and was graduated from the University Medical College of this city in 1888.

Cancer Mortality Among the Jews.—An English paper states that one of the lecturers at Owens College, Manchester, not long since put forward the assertions (1) "that no Jew or Jewess has ever been known to suffer from cancer;" and (2) that "the immunity of the Hebrew race from this frightful scourge was attributed to their abstinence from swine's flesh."

All Pleurisies, even the simpler forms, are of bacterial origin. Such was the opinion generally expressed at a recent meeting of the Italian Medical Congress.

KOCH'S METHOD AND WHAT MAY BE EXPECTED OF IT.

By Direct Cable to the Medical Record.

(From a Staff Correspondent at Berlin.)

Berlin, December 4, 1890.

It is hardly necessary to write in detail about the particulars pertaining to Koch's method for the treatment of tuberculosis, as they have already found extensive publication. The inoculations are made in all the public institutions at the present time and the facilities for the reception of tubercular patients are constantly being increased. Of the European physicians who were attracted here by Koch's paper of November 13th, most of them have returned, and American physicians are now arriving. Of those now here from the United States, I may mention Drs. Ernest, of Boston; Abbott, of Baltimore; H. P. Loomis, Lindsley, Einhorn, and Stearns, of New York, and Dr. Von Ruck, of Asheville, N. C. American patients are also arriving, but find it difficult to receive the care and treatment they seek, and some of them are returning home, preferring to wait until they can receive the treatment there.

I have since my arrival visited many of the clinics, and desire to call particular attention to the exhibition of patients by Dr. Gerhardt, at the Charité, and his remarks made to physicians in connection therewith. Dr. Gerhardt spoke in particular of Koch's lymph as a specific in its action upon tubercular tissue, and mentioned its importance as a diagnostic means, equal to the demonstration of the tubercle bacillus, but, like it, not infallible. As to the therapeutic results, he said the time is altogether too short to form any opinion, and a year or two must elapse before we can correctly appreciate its value in his cases. He called attention to the occasional occurrence of hæmoptysis after the injections as probably referable to the so-called stage of reaction, and counselled great circumspection, especially in considerably advanced cases. The reaction, he said, was by no means uniform. In some cases the fever might appear in a few hours, in others it occurred later, even as late as twenty-four hours, and in three cases which he showed it did not occur at all, although one patient had received five centigrammes.

Dr. Ewald has treated 90 cases at the Augusta Hospital since the first introduction of the method, and of the results thus far he says in most of them their condition has been ameliorated. There is a state of euphoria, a better state of subjective feelings, improved appetite, disappearance of night-sweats, less cough, etc., but physical examinations of the chest show no changes, unless an increase of the moist sounds during the stage of reaction and subsequently. New features are constantly being observed and the cases differ greatly, not only in the degree and duration of the fever but also in their state-

ments as to headache, general malaise, nausea, and various other sensations. He also observed various exanthems, and one case typical with that of scarlatina.

A post-mortem examination of a case with extensive lung disease and intestinal tuberculosis, and far advanced in the disease, and who had received one injection shortly before he died, revealed nothing characteristic upon the tuberculous ulcerations in the intestine as due to the inoculation. In speaking of the method he pointed out the difference between the preventive inoculations of Jenner and Pasteur and the repressive effect upon an established tuberculosis by Koch's method.

At the City Hospital, which has been designated as the central station for Koch's method, the Director, Dr. Guttmann, has set apart ninety beds for cases to be treated by inoculations, and Dr. Koch comes there personally to witness the results. Very exact graphical records are kept, showing the various symptoms of the stage of reaction and also of the number of tubercle bacilli in the expectoration, which is examined daily by Professor Ehrlich, who has taken charge of the bacteriological laboratory. There Director Guttmann demonstrates a great many cases daily and his observations coincide with those of Professors Gerhardt and Ewald in every particular.

From all this it may be seen that the state of affairs concerning this work and its clinical features is simply that of gradual accumulation of experience and knowledge, and the opinion is here very general that visiting physicians will be able to learn and see much more three or four months hence than at the present time. Patients certainly should be discouraged from coming here, especially since in a very short time the treatment will be carried out in American institutions, but, above all, because nothing is as yet certain or settled as to the results.

In the *Deutsche Medicinische Wochenschrift* of December 4th the following new investigations on the influence of Koch's medium on tuberculosis are published:

"Observations on the reactions which appear after the use of Koch's medium," by O. Rosenbach, of Breslau. Rosenbach advises the following classifications: (*a*) Suspicious cases, *e.g.*, catarrh of the apices, without bacilli in the sputum, and phthisical cases, *e.g.*, vomici and old excavations and with bacilli. (*b*) With absence of bacilli but clinically of a phthisical nature. (*c*) Phthisical infiltrations with bacilli appearing during a long period of observation but with either no fever or very slight fever. (*d*) Joint affections of a dubious character. (*e*) Clinically undoubtedly tubercular. (*f*) Affections of the bowels. (*g*) Affections of the larynx.

Having examined all these species, although necessarily but for a short period, Rosenbach arrives at the following conclusions: 1. It is always advisable to begin with small doses, namely, one milligramme, and, if there be no reaction fever, to increase the dose by degrees. After the patients have become used to small doses they can be increased gradually, with longer intervals between each dose, and always with the greatest caution. 2. In phthisis of the larynx there was reaction in only one case. 3. The time at which the injection is administered has an influence on the febrile reaction, the temperature rises quicker and higher if the injection be made at the time when the fever usually comes on. 4. The injection is made by Pravaz's hypodermic syringe containing one cubic centimetre of Koch's fluid, which must be diluted with one-half per cent. solution of carbolic acid before the injection is made. The best place for making the injection is the cutis of the abdomen.

C. von Noorden, of Berlin, Gerhardt's Klinik, has also written a paper on "Early Changes in the Lung under the Influence of Koch's Method of Treatment." A female patient, with lupus of the nose, was treated by Koch's method. The lungs and other organs were apparently in a normal condition. On November 21st the first injection was made of five milligrammes of Koch's fluid. In the evening the temperature rose to 38.8° C., the respirations were 42 and the pulse 110, the lupus spot on the nose became reddened and swollen, the commencement of ulceration became evident in the larynx, and the patient complained of pains in the right side of the chest. November 22d: The fever continued; temperature, 39° C.; pulse, 122; respiration, 58; over the lung there was exceedingly loud breathing. Expectoration, which had not existed before, now came on profusely and was of a muco-purulent character; there were no bacilli. November 23d: apices, anteriorly dulness and fine râles; respiration, 30; temperature normal. November 24th: Cough less, no expectoration; the dulness and râles were lessened. November 25th: At 10 A.M. one centigramme was injected. At 3 P.M. there was chill, cough, and expectoration; temperature, 40° C.; pulse, 132; respiration, 60; again dulness and râles. November 26th: The patient was restless during the night; the temperature fell slowly to 38.8° C.; respiration 68. In the morning, on the affected portion of the lung, bronchial breathing was found, with crepitant râles. The spot of lupus on the nose became again swollen, but not so much as after the first injection. November 27th: The temperature fell to 36.5° C. and the respiration to 30.

There was sweating and much dry cough. The condition of the lung remained as before, and there were no bacilli in the sputum. November 28th and 29th: Showed a gradual decrease in the dulness. November 30th: The dulness had nearly disappeared, and the breathing had become normal.

The author describes four more similar cases in which tuberculous spots could not be recognized by physical signs before the injection. After the injection they could

be diagnosed by physical signs in the lungs; the affected part of the lung, after injection, became more infiltrated and thickened.

The time for the appearance of these changes varies twenty-four hours. After their appearance they usually begin to decrease. The author also warns against using Koch's remedy in cases where large portions of the lungs are affected; for by the thickening of the lung after the injection there is a diminution of space for the air in the lung which might become fatal in these advanced cases. These transitory infiltrations probably bring on the healing process.

Dr. E. Kromeyer, of Halle, examined portions of lupus tissue excised from a patient affected with that disease, and concludes that the injection brings on an inflammation of the structures surrounding the tubercle, which results in suppuration of the same.

More Facts Concerning the Koch Treatment.—Our correspondent from Berlin writes, under date of November 20th: "The excitement here over the new treatment of tuberculosis is so great, the expectations for its success in everything of a tuberculous nature is so unlimited, that it is at present difficult—one might better say it is impossible—to come to any intelligent conclusion as to its value or its limits. Furthermore, it has been under trial for too short a time, as the treatment was begun here less than two months ago, in Dr. Levy's private hospital. Conservative men, however—many of them—think that the reaction will come sooner or later, as the popular expectations concerning it are altogether too extravagant. Still, results may be seen here daily which are simply amazing to the most incredulous.

At present, cases of the following nature are under treatment at Dr. Levy's hospital, and have been seen by the writer: Lupus, tubercular (?); diseases of temporal bone (following chronic purulent otitis); tubercular (?) glands of the neck; tubercular (?) disease of the tarsal bones, of larynx, of coccyx; pulmonary phthisis; tubercular (?) tumor of iris, etc. The course some of the cases have pursued is exceedingly striking. For example, tubercular disease of tarsus. The child, three or four years of age, showed a characteristic fistulous opening over the tarsus of left foot, discharging scanty thin pus. This case had been of several months' duration. After the first injection, which was followed by the usual severe constitutional symptoms, the foot became swollen, red, tender, and painful, and the discharge became thick and creamy; as the constitutional symptoms abated in severity, so also did the local symptoms. After two or three days the injection was repeated, and was again followed by the general and local symptoms. After the fourth injection (given almost always in the back) the sinus closed. The next two injections were not attended by constitutional symptoms, but only by some redness around the site of the former sinus. The next injection was followed neither by general nor by local symptoms, and in consequence was pronounced cured. To-day the foot is not swollen, not painful or tender, the sinus is closed and covered by a firm pink scar.

Another case, a woman, about twenty-five years of age, with the characteristic scars in neck, dating from childhood, was admitted with very large (one nearly the size of a hen's egg) tuberculous (?) glands under the chin and at the angle of the jaw. The first injection was followed by most violent constitutional symptoms (temperature 106° F.), so that the injection was not repeated for several days. At the same time the general symptoms developed, the glands increased in size, and became red and tender. After a few days the injection was repeated, and she has now had three or four. The glands have diminished fully one-half in size. Case still under treatment.

"The child with tubercular disease of temporal bones, in addition to the general symptoms, always complains of pain in the ears, puts his hands up to the ears, crying, etc., after an injection.

"The case of so-called tubercular tumor of the iris has had no reaction following the injection, and the diagnosis will accordingly be modified.

"The cases of lupus have been often described, and the change in the appearance of the patches is oftentimes astonishing. Many turn black, and look as if they had been burned with the actual cautery.

"The material used is a brown fluid, which is used in ten per cent. watery solution, and of this the dose varies from 0.1 to 0.01 c.c. The largest dose used at Dr. Levy's has been 0.7, and the patient was comatose for the following forty-eight hours, and it was hardly expected that she would recover. Not a few cases have become unconscious after the injection. Little is publicly known as to its composition. Even Koch's assistant assured the writer that he did not know it. I have been told that it contains no germs, but that it is a product, the result of the changes produced in the nutrient material by the germs, like the ptomaïnes (Stoffwechsel producte). It is absolutely impossible to procure any of the material at present, and probably will be for weeks to come. The maker, Dr. Libbertz, has been so besieged for the material that he has disappeared from view. No one can find him.

"The remarkable fact is, that the material does not kill the bacilli, as Koch himself expected it would do. The tubercle-containing tissue is separated from the healthy tissue, and yet in the former are the living bacilli."

Professor Koch's Lymph.—The material used by Professor Koch in his inoculations for tuberculosis is a viscid fluid, the color of a dilute solution of iodine, is of a slightly syrupy consistence, and is supplied in white glass corked bottles containing each about forty grammes. It is prepared for use by adding one hundred grammes of sterilized water, the maximum dose of injection being one gramme. The injection is made subcutaneously in any part of the body, but preferably between the scapulæ. No reaction appears locally, but at the end of four hours severe constitutional effects are manifest in the appearance of rigors with malaise, followed by a temperature which may reach 106° F., with a corresponding increase in the pulse-beat from 120 to 160. Vomiting frequently occurs at the acme of the fever. In some cases the reaction is attended with alarming symptoms, very great prostration, requiring the use of stimulants, and severe dyspnœa. When the tuberculous deposit is super-

ficial there is in and around it great tumefaction. The amount of constitutional disturbance is said to be governed by the extent of the tubercular deposit. This is noted particularly in cases of lupus and in tuberculous glands of the neck. The constitutional symptoms are usually of short duration. Subsequent injections are not attended with systemic disturbances. Over the surface and in the neighborhood of tuberculous swellings, scabs appear which, on being separated, leave healthy granulating surfaces. Cases in that stage are said to be cured, in as much as they show no constitutional reaction.

THE PROTECTION FROM DIPHTHERIA AND TETANUS BY INOCULATION.

(By Direct Cable from Berlin.)

BERLIN, December 4th.

By the courtesy of the *Deutsche Medicinische Wochenschrift* your correspondent has received advanced proofs of an article on the prevention of diphtheria and tetanus in animals, based upon experiments in the Hygienic Institute, at Berlin, made by Dr. Behring, assistant in the institute, and Dr. Katasato, of Tokio. After long experimentation these observers claim to have cured animals suffering from either of these diseases—diphtheria and tetanus—by the inoculation of the serum from the blood of animals already infected. It is claimed by a large number of experiments, first, that the blood of rabbits protected from tetanus possesses the property of destroying the tetanus poison. Second, that this property is possessed by the non-cellular serum obtained from the blood. Third, that this property is of so constant a nature that it also remains active in the organism of other animals, so that notable therapeutic effects are produced by the transfusion of blood or serum. Fourth, the property of destroying the tetanus virus is absent in the blood of those animals which are not protected against tetanus, and if the tetanus virus is injected into non-protected animals, it can be so demonstrated, even after the death of the animals, in the blood and in the other fluids of the body.

In the test of the degree of immunity a rabbit previously protected received 10 c.c. of a germ containing virulent tetanus bacilli culture, of which $\frac{5}{10}$ c.c. sufficed to make a normal rabbit yield inevitably to tetanus. The protected rabbit remained entirely healthy. He had not alone secured immunity against infection with living tetanus bacilli, but also against the tetanus virus, as he tolerated twenty times the amount of a poison which suffices to kill, without exception, normal rabbits.

Blood was taken from the carotid artery of this rabbit. From this fluid blood (before coagulation) $\frac{5}{10}$ c.c. were injected in the abdominal cavity of one mouse; $\frac{5}{10}$ in that of another mouse. At the end of twenty-four hours both animals, together with two mice were injected with virulent tetanus bacilli, and to such an extent that they were attacked by tetanus twenty hours afterward, and died in thirty-six hours. On the other hand, both previously treated mice remained permanently healthy. The larger amount of blood was allowed to stand until serum had formed abundantly, and of this serum six mice received each an injection of $\frac{5}{10}$ c.c. into the abdominal cavity. After the infection, which occurred twenty-four hours later, all six animals remained healthy, while the unprotected mice died of tetanus in less than forty-eight hours. Therapeutic results may also be secured by the serum in the following manner: The animals are first infected by inoculation, and then the serum is injected into the abdominal cavity. Experiments with the serum were also made tending to show its great virus-destroying property. Of a ten days' tetanus culture, which had been made free of germs by filtration, .00005 c.c. sufficed to kill a mouse at the end of four to six days, and .0001 c.c. to kill in less than two days.

Now, we mixed .0001 c.c. of this culture and allowed the serum to act twenty-four hours upon the tetanus virus contained in the culture. Of this mixture, four mice received each 2 c.c. up to .033 c.c., or more than three hundred times the dose otherwise fatal to mice. Four mice remained permanently healthy, while the unprotected mice died at the end of thirty-six hours from .0001 c.c. of the culture. The mice, in all the hitherto-mentioned series of experiments, both those into whom abdominal cavity serum was injected, and those who were injected with a mixture of tetanus virus and serum, have remained permanently protected. They resisted subsequently repeated inoculations with virulent tetanus bacilli. This fact is especially noteworthy because in the innumerable individual experiments no mouse, no rabbit, in fact, no animal hitherto tested, had been found protected, and because the very long-continued attempts in the Hygienic Institute to make animals safe against tetanus by the hitherto known methods, have been entirely unsuccessful. The authors claim that they are justified in drawing the conclusion that the above expressed interpretation of the occurrence of immunity which at once, and without any difficulty shows a positively effective, and for the animals, entirely innocuous method of producing immunity, also satisfied the need of preventing its causation. As a matter of course, experiments were also made with the blood and serum of non-immune rabbits. This blood and serum proved therapeutically, as well as prophylactically, to have no influence upon the tetanus virus. This was also true of cow, calf, horse, and sheep serum, as was shown by special experiments. The blood within the vessels of living non-protected animals also possesses no tetanus destroying promises, as appeared from the following experiment which was repeatedly made:

Animals who received a subcutaneous injection of .5 c.c. of a virulent tetanus culture, free from germs, died after five to six days with typical symptoms of tetanus. At the autopsy, in almost every case, a serious transudation is found in the pleural cavity. Of this transudation .3 c.c. on the average suffices to produce tetanus in a mouse, and to kill the animal, and in the same dose the blood of a tetanus-poisoned animal again produces tetanus in mice. In conclusion, the authors express a hope that the principles demonstrated in these experiments may in time be applied to the treatment of diphtheria and tetanus in man.

Still Alive and Well.—Dr. Lassar, of Berlin, late Secretary-General of the International Medical Congress, sends us a letter denying the rumor that he has been ill, saying: "My state of health has always been a perfect one, and is so still. After finishing my duties at the International Congress, I made a long-projected trip to the United States of America, for which I had made arrangements with the White Star Line months before. After having taken a glance into your grand country, I returned in order to continue my duties as general secretary to the German Society of Naturalists and Physicians, whose latest 'Transactions' (September, 1890), edited by myself, I have the honor to forward you. As to the other rumors alluded to in your report, I only have to assure you that they are just of the same value as the foregoing, and luckily not at all founded on facts. I am very thankful for the sympathetic way in which you and your countrymen have acknowledged my modest services at the congress, and hope you will see your way to oblige me by publishing this letter. Believe me, dear sir, yours very truly."

Society Reports.

THE PRACTITIONERS' SOCIETY OF NEW YORK.

Stated Meeting, November 7, 1890.

GEORGE L. PEABODY, M.D., PRESIDENT, IN THE CHAIR.

Fatal Purpura Hemorrhagica.—DR. HERMAN M. BIGGS presented the stomach of a man who had died of purpura hemorrhagica. He was fifty years of age, and was admitted to Bellevue Hospital with synovitis of the knee. After ten weeks' stay he was put on iodide of potassium, ten grains three times a day, continued a week. At the end of the week there developed a characteristic iodide eruption on the face. The iodide was then stopped and the eruption disappeared. At the end of another week the patient complained of headache for about twelve hours, very severe in type. During the night following, spots of purpura hemorrhagica formed in enormous numbers all over the body. They increased very much the next day, and the second day the patient began to have hemorrhages from the tongue and nose. The bleeding was very profuse and uncontrollable. After twenty-four or thirty-six hours he became very weak, and six days after the hemorrhages had commenced he died, with symptoms of internal hemorrhage. Before this he had passed tarry stools. There had been no elevation of the temperature.

At the autopsy the body was found covered everywhere with hemorrhagic spots, varying from a centimetre to three centimetres in diameter. There were hemorrhages into the pleura and pericardium, into the stomach, and throughout the small intestine. The lower portion of the ileum was filled with masses of blood, the mucous membrane infiltrated, and small hemorrhages existed in the peritoneum.

Some cases of purpura hemorrhagica had been reported as following the use of iodide of potassium, but it hardly seemed possible to the speaker that such small doses as ten grains three times a day, especially since an interval of a week had elapsed since its discontinuance, could have produced such intense hemorrhages as were present in this case.

Replying to Dr. Dana's interrogatory, he said there was no cirrhosis of the liver nor other abnormal condition than that which he had mentioned.

DR. J. D. BRYANT did not think there could have been any relation between the joint-lesion and the purpura hemorrhagica. He inquired more definitely what had been done to the joint.

DR. BIGGS said nothing whatever had been done except to produce counter-irritation. There was no compound lesion.

Idiosyncrasy to Drugs.—DR. A. B. BALL said it was generally recognized that drugs not ordinarily poisonous, yet producing a poisonous effect in individuals with an idiosyncrasy, might produce that effect not alone in large, but also in small doses. For instance, he had seen most intense symptoms of poison from a single one-grain dose of quinine. There resulted an eruption resembling scarlatina; there was so much swelling of the tongue as to cause it to protrude from the mouth. A like effect was produced after administering this small dose on three separate occasions. So also with persons who were easily poisoned by iodide of potassium, a small dose was as likely to produce the effect as a large one. He did not mean to suggest, however, that Dr. Biggs's case was one of this kind. He had had no such experience himself; besides, there was an interval of a whole week between the time when the administration of the iodide had ceased and when the purpuric eruption broke out, which would make him all the more unwilling to admit any relation of cause and effect. With regard to the smallness of the dose, however, he thought that did not argue especially against a poisonous effect of the iodide of potassium. In fact, he did not think ten grains was a small dose, although it would not produce a poisonous effect unless the individual showed an idiosyncrasy.

Looked Like Infection.—DR. FRANCIS DELAFIELD thought this case gave the very straightforward history of a class of cases of purpura which behaved like an infectious disease. Of course we were still very ignorant of what that infection was, yet a sufficient number of such cases had accumulated to enable us to say that they had nothing to do with accidental things like the taking of iodide of potassium. This patient evidently did not die of bleeding; he died of poisoning of some kind. He supposed all present had seen such cases, and that which struck one was that the appearance of the patient was that of a person who was suffering from the effects of a poison. Dr. Biggs had not mentioned making any cultivations.

DR. BIGGS said the autopsy was performed so long after death that it was not thought worth while to make cultivations.

DR. DELAFIELD added that evidently such was the direction in which we had to look for an explanation. The case reminded him of an exactly similar one. Of course they were not numerous, but they were very much alike when they did occur.

DR. BIGGS inquired of Dr. Delafield whether he thought any distinction could be made between cases which were associated with elevation of the temperature and those which were not.

DR. DELAFIELD replied, no. It was analogous to what one saw in other infectious diseases. For example, a patient might die with septic peritonitis and have very little high temperature. A high temperature did not necessarily go with poisoning in that way. Again, observe the difference in temperature between cases of ordinary tonsillitis and of diphtheritic tonsillitis. He remarked that at the last meeting of the Section on Practice at the Academy of Medicine Dr. Lockwood read a very good paper on the different forms of purpura, grouping the cases in an interesting way. Of course there were many different kinds of purpura, but the case which Dr. Biggs had reported seemed to be an example of an infectious disease, the nature of which had not yet been determined.

THE PRESIDENT could not see how the iodides could have produced the effect in this patient, yet with regard to the size of the doses he might say that persons who suffered unpleasantly from iodides would suffer more from small doses than from large ones. For instance, one in whom five grains would produce an unpleasant effect might take twenty grains very easily.

The Rheumatic and Gouty Diathesis as Manifested in Diseases of the Throat.—Dr. Beverley Robinson read a paper with this title. (See p. 621.)

DR. ANDREW H. SMITH thought the paper had covered the ground very fully. The position taken, which was to some extent modern, was corroborated by experience dating far back. It was well known that practitioners formerly employed in many cases of throat trouble or quinsy, guaiacum, the influence of the drug being, probably, in the same line as that pointed out by the reader.

Later on it was recognized that there was a sore-throat which was connected with habits of life likely to produce gout; a sore-throat which could not be relieved by local applications, but was most influenced by restricting the diet. A little later still, remedies were employed which were known to be beneficial in gouty or lithæmic cases. His personal experience coincided with that of the reader.

DR. A. ALEXANDER SMITH was decidedly in accord with the reader of the paper, so far as the view had been expressed that there was an association between the rheumatic and gouty diathesis and many throat affections. He followed this view in a therapeutic way, not alone in acute cases, but often also in those of a chronic nature. Sometimes when fearing that he accepted this view too emphatically, he tried other methods of treatment, but

was often obliged to resort at last to agents which would correct the rheumatic or gouty tendency before he could obtain success. He made it almost a routine practice in acute superficial inflammatory conditions of the mucous membrane of the throat to use anti-rheumatic agents, and it seemed to him with very decided success. He was not surprised to hear Dr. Robinson express himself as not at all satisfied with the application of astringent agents which were relied upon by many for the relief of these affections. It seemed to him that very often local treatment could only be directed to the use of certain soothing agents, especially those of a very mild kind; that real relief was to come from correcting the diathesis which underlay the condition. He must admit, however, that he was not always satisfied of having made a correct diagnosis of this association until he had tried treatment. It might not be so scientific to wait for the action of a therapeutic measure before making a diagnosis. It was somewhat in line with the use of quinine in certain irregular manifestations, and jumping at the conclusion, should it prove beneficial, that the trouble was miasmatic.

Tonsillitis and Bad Drainage.—DR. BIGGS said the reference made by the author to cases of tonsillitis and rheumatism associated with bad drainage and unsanitary surroundings, reminded him of an interesting epidemic of tonsillitis which came directly under his observation the past summer while in the Adirondacks. Nearly every person in the hotel was taken with an acute follicular tonsillitis. On examination it was found that the water-closet, a large vault, had not been cleaned for many months. After cleaning it there was immediate disappearance of the tonsillitis.

DR. ROBINSON said he had been led to write this paper because he believed there were many persons who suffered a great deal from trouble in their throats, and who spent much time and money in consulting specialists and general physicians without obtaining relief because the underlying condition was not recognized. Two cases were referred to as examples. A man had suffered any amount of pain in the throat, had passed through the hands of specialists without any relief, and finally came under the care of the speaker, yet, failing to recognize the true cause, of which there were no other manifestations, he did not succeed in giving the patient any relief. He then had him consult a distinguished specialist, with the hope that something might be found which he had overlooked, and this specialist told him that the turbinated bones were enlarged, and suggested an operation. Before this was undertaken Dr. Robinson gave the man colchicum and thus relieved the symptoms. The other case was that of a woman, whom some of the members had seen just before the meeting. She had been under his care for two years. There were rheumatic manifestations and swelling of the joints at times, from which relief was obtained by salicylate of soda. At other times she suffered from trouble in the throat, and less from the joint affection, yet anti-rheumatic treatment best relieved the throat difficulty.

DR. C. L. DANA remarked that Dr. Robinson had referred to three diathetic conditions, the rheumatic, the gouty, and the lithæmic; he would ask whether he recognized any throat disorders due to a diathesis besides the rheumatic or gouty.

DR. ROBINSON feared he had made himself misunderstood. Perhaps he should not have called the lithæmic condition a diathesis. There was a lithæmia which he believed was due to bad habits, as drinking or eating too much, and which would disappear with the correction of those habits. On the other hand, he believed there was such a condition as the rheumatic and the gouty diathesis. Sometimes they were very distinct, while at other times it was hard to distinguish between the two. Nor would an examination of the urine enable one to make the differential diagnosis. More reliance could be placed upon the effect of remedies in making the diagnosis in these cases than upon the symptoms.

Regarding Mineral Waters.—He would like an expression of opinion with regard to the value of certain mineral waters in these cases. Judging from his limited experience he thought these patients were no better for drinking Richfield Springs or Sharon waters. The bath and the spray did good, but he was not at all confident that drinking the water was of any benefit. Perhaps it was because of the salts of lime which the waters contained.

THE PRESIDENT asked if it was not a fallacy to suppose that drinking sulphur water any place whatever was of service in joint troubles. Moreover, he thought the benefit derived on using sulphur baths was due largely to the influence of the heat, the change of air, and freedom from care.

DR. ANDREW H. SMITH asked the President whether sulphur had not a diuretic effect.

THE PRESIDENT doubted whether sulphur water had any more diuretic effect than had simple water.

DR. ANDREW H. SMITH remarked that inasmuch as the internal use of waters usually went hand in hand with the external use, it was difficult to say to what form the benefit should be ascribed.

DR. DANA thought sulphur had no effect on rheumatic joints when taken internally, and the President coincided in this view.

DR. CLEMENT CLEVELAND asked the President whether he was to be understood as saying that alkaline hot baths were useful only because of the heat.

THE PRESIDENT replied that he thought the efficacy of baths was almost uniformly in proportion to the heat applied. There might be some mineral ingredi nt which produced a certain amount of counter-irritant effect apart from the heat, but that was uncommon, and as a rule the baths were beneficial in proportion to the amount and continuance of the heat. That there was no absorption of the mineral, with few exceptions, he thought could readily be proven. In fact he thought the fallacy with regard to the efficacy of mineral baths was very great.

DR. ROBINSON thought he had seen rheumatic joints made less painful by the use of hot water combined with potash salts, notably bicarbonate of potash, more than by hot water alone.

DR. ANDREW H. SMITH was in the habit, when the joints remained swollen and stiff, though not positively painful, following rheumatism in which salicylates had done all the good they were capable of, of having them soaked in an alkaline solution, and he thought with benefit above that coming from the heat alone.

THE PRESIDENT said he applied heat alone in the form of poultices or hot compresses, having abandoned mineral ingredients, and he thought his results were just as good as formerly when mineral ingredients were present.

The Soda Bath in Rheumatism.—DR. CLEVELAND said that twenty years ago, when he was interne at Charity Hospital, all cases of acute rheumatism were put into the soda bath, with a temperature of 105° F. The patients remained in the bath ten or fifteen minutes, unless there was some positive effect on the heart's action. Usually after two or three baths they were quite cured of the attack, no internal remedies being administered. He had treated the few cases which he had seen since in the same manner, with very satisfactory results.

In a Bath Six Months.—DR. A. H. SMITH remarked, as bearing on the question of absorption of simple water during a bath, that while in Hamburg the past summer he saw patients who had been kept in the bath for weeks, and even six months, yet it was stated that they had the same degree of thirst as under ordinary conditions.

THE PRESIDENT remarked that the outer layers of the skin would absorb water and the epidermis become somewhat softer and thicker, but that the water reached the blood-vessels he thought had been distinctly disproven. Replying to an interrogatory by Dr. Bryant, he said he thought density had no influence.

Peculiar Skin Eruption.—Dr. Andrew H. Smith related a case of peculiar eruption on the skin seen in the Presbyterian Hospital some days since. The patient was an Italian man, who was brought to the hospital, although there was no elevation of the temperature, nor feeling of illness. Nearly the entire surface of the body, however, was covered with what seemed to be very minute pustules. They were very superficial, scarcely reaching beneath the superficial layer of the epidermis; were white, and like the surface of a nutmeg-grater. He was given a good scrubbing, and a large proportion of the pimples were brushed away, leaving slight abrasions. In a day or two scarcely any were left. There were no constitutional symptoms whatever. He made careful inquiry as to the use of any application, but none had been employed. The appearance was somewhat like that following the use of croton-oil, but without the presence of dermatitis.

The President said some proprietary preparations containing a small amount of croton-oil would have that effect.

Dr. George F. Shrady referred to a case in which a similar eruption appeared on the face, neck, hands, and arms in a woman who had used a proprietary preparation containing a strong alkali, to which the eruption was attributed. She made it the basis of a suit for damages.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Adjourned Annual Meeting, November 24, 1890.

Report of the Editor of the Medical Directory.—Dr. A. S. Hunter, the retiring President, called the adjourned annual meeting to order, and the Society first listened to the report of the editor of the Medical Directory, Dr. Daniel Lewis. He stated that the Directory was steadily gaining in circulation outside the Society. Nearly two thousand copies had been distributed. The receipts from sales, advertisements, etc., had been $1,333.60; expenditures, $1,145.21. One thing which the Society had gained by publishing the Directory was the payment of nearly seven hundred dollars back dues by those who wished to have their names retained in the published list of members. The report was accepted.

Providing for the Current Year.—Dr. John S. Warren offered the following: Resolved that the comitia minora be authorized to expend during the coming year such an amount from the funds of the Society as it deems necessary for its successful management. Adopted.

Address of the Retiring President.—Dr. Hunter, before turning the office over to his successor, read a brief address, in which he said the Society had listened during the two years of his presidency to the reading of twenty papers, especially prepared to meet the wants of the general practitioner. The strength and usefulness of the Society was steadily increasing. In our new quarters we would find a comfortable, convenient, and roomy home. In the new building of the Academy there was plenty of space to introduce a new feature, which, if adopted, would not only largely increase the attendance, but also serve to still further unify our membership. He referred to the advantages which would accrue from a simple collation after each meeting. The feasibility of such a feature had been presented to the comitia minora months ago, and had received their unanimous approval. He suggested the exclusion of wine and beer, and that those who wished to smoke bring their own cigars.

He thought power to deal more effectually with the more brazen medical frauds in the community would come with the new law requiring the licensing of practitioners by the regents of the university.

Address of the Incoming President.—Dr. Orlando B. Douglas, President elect, then took the chair, and read an address, in which, after expressing gratitude for the honor conferred upon him, he reviewed some of the more important points connected with the founding of the Society and its subsequent growth. The facts went to show the advantages of medical association in the upbuilding of medical science and art, and in putting down quackery. The names of some of the founders of the Society in 1806 were permanent in the annals of the country. There had been forty-nine presidents of the County Society, the senior living ex-president being Dr. Samuel T. Hubbard, who had, at his invitation, taken a seat upon the platform. He was a good illustration of the statement, that it was better to be young at seventy than old at forty.

Committees.—Dr. Douglas then appointed the following committees: *On Ethics*—Mark Blumenthal (chairman), J. Leonard Corning, and Wendell C. Phillips (two more to be appointed). *On Hygiene*—Abraham Jacobi (chairman), Henry D. Chapin, H. P. Loomis (two yet to be appointed). *On Prize Essays*—Andrew H. Smith (chairman), Simon Baruch, and Andrew F. Currier. *Auditing Committee*—William Stevens and Robert Campbell.

On motion the question of having a collation after the meetings was referred to the comitia minora with power.

On motion the old committee on hygiene was requested to make a supplementary report, in order that that part referring to the condition of the public schools might be brought before the Board of Education without having to wait the usual time required for submitting the report to the State Medical Society.

The Resorption of Immature Cataract by Manipulation Conjoined with Instillation.—Dr. Richard Kalish read the scientific paper of the evening, bearing this title, which will appear later in these columns.

Sceptical.—Dr. H. D. Noyes said the subject was one of a good deal of interest, for it appealed to the happiness of a large number of people. He would have been better pleased with the paper had it been presented with more direct relation to the pathology of cataract. Cataract was not a single form of pathological condition of the lens. It had very multiform relations. He had hoped on reading the announcement of the meeting that the author would state the kind of cataract which he deemed suitable and the kind which he deemed unsuitable for this treatment. Instead of that, he had stated that his treatment of cases had been invariably and permanently successful. Being again assured by the reader of the paper that he had not misunderstood him, Dr. Noyes went on to say that he regretted to have to mention a case which the reader had apparently forgotten, a case in which he had treated the patient in this manner, she did not improve, and later a cataract operation was performed by another surgeon.

The cases illustrated upon the screen had all been of one type; they were cataracts in which the lens presented diffuse cloudiness. One did not observe, except in one case, marked striation. One who had had much experience in opthalmology must have had plenty of opportunities to correct his early mistakes in prognosis. He had put down upon his books many times the opinions of his patients which in the future they changed.

One case was illustrative of others of a certain kind, that of a lady whom he was treating with glasses for a condition of the eyes, and he noticed cataract striæ in the periphery of the lens, but declined to inform her of the fact because of her nervous disposition. Seven years afterward he saw her again, and still discovered the same striæ without further change in the lens.

To make himself more clearly understood, Dr. Noyes spoke briefly of the pathology of cataract. In senile cataract there was sclerosis of the nucleus of the lens, the lens growing harder as age progressed, most marked in the nucleus. In certain persons this hardening process went on in such a fashion that the nucleus hardened at a rate considerably faster than the cortex, the result of which was that clefts and fissures formed in the cortical portion, and it was these fissures which were seen as striæ. They were, in reality, open spaces which, as they

were formed, became immediately filled with fluid. The fluid was more or less serous in character, but became albuminate. It was liable to degenerate, and produce more or less degeneration in the fibres of the lens. Then again the process might take place rapidly and the lens swell. He had for many years told certain classes of patients that he might be able to do something for them, and that in the course of a few months they would be able to see better. He had made that observation many times, and what did it mean? It meant that the serous fluid which had become effused into the substance of the lens, between its fibres, gradually became spontaneously absorbed, the lens adjusted itself to the new condition, became more homogeneous, somewhat more dense, and thereby vision was made better; there was less disturbance in the refraction of light passing through. Another result was some impairment of the nutritive source of the lens, the blood-vessels in the ciliary region. When opacity existed in the lens it was extremely common to find opacity in the vitreous humor. It was so frequent that he had many times given small doses of iodide of potassium and in a few months seen marked improvement in vision while at the same time little change could be observed in the condition of the lens.

Dr. Noyes then analyzed the cases which Dr. Kalish had reported in his first paper, with a view to seeing whether the apparent improvement could not be accounted for in some other way than by the treatment. He thought that the recorded history by no means justified the statements made by the author regarding the value of his procedure. He hoped he would place himself in an attitude where he would not be subject to criticism based on incomplete observations, or leaving unsaid that which it was necessary to say in order to establish such remarkable claims for this mode of treatment. He also thought it only fair that he should permit experts in his own department to examine some cases before and during the treatment.

Dr. Herman Knapp had listened with intense interest to the paper, for the announcement that cataract could be absorbed had filled him with diffidence if not with scepticism. It did not, however, seem unreasonable that cataract might be absorbed. There was no decay of fibre, there was scarcely anything which distinguished the cataractous lens from the normal lens, and therefore it was not astonishing that since time immemorial attempts had been made to cure cataract without resorting to the knife. These attempts dated back two thousand years, and still every two or three years a new remedy for cataract was published in the secular and medical press, and had a certain run. He was far from disbelieving the reports of Dr. Kalish, but he wished to understand them; he wanted to know with what kind of cases he had had to deal. He had been impressed by the fact that of the different drawings which he had seen, not one was of regular cataract; all were more or less irregular opacities in the pupillary area. He would call them anomalous cataracts. Opacities of the lens should be called cataract only when really progressing, and when in that condition in which ophthalmologists generally regarded them as incurable except by an operation. Then he hoped the author would publish the names of his patients, or so designate them that if they subsequently came under the observation of other surgeons they would be known. The results of cataract operations were far less uniformly good than the author had claimed for his method.

Regarding the case of ripe cataract, the patient seeing twenty-six inches after treatment, he had seen such patients improve to such a degree after there came out of the diffuse opacity one uniform amber-colored substance, the lens being left nicely rounded, that the patient could see fingers not only twenty-six inches, but even twenty feet.

But the paper had chiefly to do with incipient cataract. Cataract, he said, was certainly a disease, and in its incipiency was almost invariably connected with opacities of the vitreous. These changes were transient. He thought it could be said there were some changes in the crystalline lens produced by this condition giving rise to opacities of the vitreous, the changes in the lens forming cataract—in some cases progressing, but in numbers of cases not progressing, but even improving subsequently. He knew such cases by the hundred. He treated them by regulating the diet, not permitting use of the eyes at night, and by general methods. It was known that at sixty years of age thirty-three per cent. of the population had incipient cataract, not progressive; that at seventy, sixty-six per cent. had cataract, not all progressive.

The Question of Priority.—Dr. Knapp also asked the author about the originality of his method; as he understood the two methods, this was much like that used by Dr. Roth, of Boston, who practised manipulation and used some liquid. Some of his patients went to Dr. Roth, and came back saying they were much improved, but many of them came again later for an operation. He closed by repeating that he thought it was not irrational to treat cataract with the idea of producing absorption, but he thought the success of the method lacked satisfactory proof.

Dr. David Webster had had to tell patients inquiring about the method that he thought it yet lacked proof. He did not doubt the honesty of the reporter this evening, but he believed some allowance would have to be made for enthusiasm, both on his own part and that of his patients. Two treated by Dr. Kalish had been seen by him; one expressed the view that he thought his vision had been somewhat improved, the other was positive of it. But six months, or even a year, was not sufficient time to establish the permanency of the result. As other speakers had just said, many cases of cataract did not progress, though not treated.

Dr. Bucklin said he had seen changes in the lens as great as those shown on the screen even without treatment. He thought the method of Dr. Kalish was like that of Dr. Roth.

Dr. Kalish said, with reference to the case which he was supposed to have forgotten, that he did not include it among his cases because the woman was in poor health, unsuitable for the treatment, and he undertook it two or three sittings only at the urgent request of her daughter, and gave her three or four other such sittings as would satisfy her something was being done.

So far as attributing all his results to absorption of serous effusion was concerned, it seemed to him strange that all his cases should have had that serous effusion. His cases were all benefited, and they presented different varieties of cortical opacities. He certainly believed from the histories that the cataract was advancing; there was gradual diminution in sight in all, and in most of the cases cataract had been diagnosticated by other opthalmologists. So far as opacities of the vitreous were concerned, he had not considered them in speaking of results, simply for the reason that he had not been treating vitreous opacities; he had been treating opacities distinctly in the lens. His tests had been repeated under the same conditions as nearly as possible. As to patients with incipient cataract getting better spontaneously, he did not know that they always did so, while he did know that they uniformly got better under his treatment. He had known nothing about Roth's treatment when he began his method; besides, he understood Roth's manipulations were very different, and as to his fluid, while its exact composition was not known, yet some of his patients had told the speaker it had a different effect, was more irritating, and looked different from his own mixture of glycerine, boric acid, and rose water.

The President announced, papers for the next meeting by Dr. Rockwell, on the different physiological and therapeutic properties of induced currents of electricity with especial reference to bipolar faradization; and by Dr. Phillips, on some points in local therapeutics in diseases of the nose and throat.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, November 17, 1890.

S. B. WYLIE MCLEOD, M.D., VICE-PRESIDENT, IN THE CHAIR.

Appendicitis, Typhlitis, and Perityphlitis in Children.—Dr. J. LEWIS SMITH read a paper on this subject. He spoke first of the structure and relations of the parts affected in these inflammations, and those of the period of childhood at which they were most liable to occur. Matterstock had collated 72 cases; and of these 2 were under the age of two years, 10 between the second and fifth year, 25 between the fifth and tenth years, and 35 between the tenth and fifteenth years.

As to the etiology, he said that the most common cause was the lodgment and impaction in the cæcum or appendix, or both, of fecal matter, or hard, indigestible bodies, which produce inflammation, and sometimes perforation by their pressure. In 49 cases of fatal perityphlitis embraced in Matterstock's statistics perforation had occurred in 37; from which it might be inferred that in the majority of cases of perityphlitis resulting from appendicitis perforation of the appendix had occurred. In the analysis of 152 cases collated by Fitz the result was very similar to that noted by Matterstock. The fecal concretions found in the appendix were single or multiple, and of different degrees of hardness.

In speaking of the anatomical characters he said that in children the initial lesions, with few exceptions, occurred in the appendix. Atrophy or necrosis of its epithelium took place from pressure of the foreign substance. Then the intestinal microbes invaded the exposed sub-epithelial tissue, causing septic inflammation, which extended through the muscular coat to the sub-peritoneal tissue and to the peritoneum, causing a local peritonitis. Or it ceased before reaching the peritoneum, producing gangrene or ulceration of the underlying tissues, and, as they contracted in healing, the lumen of the appendix might be obliterated and its shape changed. Sometimes the appendix was nearly or quite obliterated, its place being occupied by cicatricial tissue; or its proximal end might be obliterated while its distal end remained open. A retention cyst then resulted, which might subsequently be inflamed, and might at some point be destroyed by gangrene or ulceration, so that its contents escaped, causing peritonitis. Occasionally similar changes occurred in the cæcum. In the mild and favorable cases of perityphlitis a fibrinous exudation occurred over the inflamed parts, so as to limit the extension of disease and prevent the escape of pus or fecal matter.

Balzer stated that perityphlitic abscess was much less frequent in children than in adults. The location of such an abscess depended on the place of perforation. It was said that in most instances the centre of the abscess was behind or alongside of the cæcum, and if it extended upward, its walls consisted of intestine and the posterior and lateral parieties of the abdomen. The abscess, left to itself, might open in any direction, with symptoms varying according to the direction taken. Evacuation of the pus per rectum had been regarded as favorable from the time of Dupuytren. But the result was not always favorable when the abscess broke into the intestine; for, after the pus had been evacuated, fecal matter might escape through the opening, carrying with it microbes which might poison the system and set up septic fever. Extension of the inflammation from the perforated appendix to and around the contiguous blood-vessels might cause disastrous results.

While perforation of the appendix commonly resulted in localized peritonitis, a more serious and ordinarily fatal result sometimes followed, viz., the occurrence of acute diffuse peritonitis. This might take place immediately after the perforation. Frequently, however, an abscess formed, perhaps of little extent, around the appendix, and it might continue for weeks or months without producing any dangerous symptoms. Finally it burst, and its contents escaped into the general peritoneal cavity, producing an acute peritonitis which rapidly extended over the peritoneal surface. A large proportion of the cases of perforation of the appendix, if left to themselves, terminated after a time in this manner, in peritonitis, which, from its extent and severity, was usually fatal.

In reading the paper, Dr. Smith omitted the portion detailing the symptoms, and went on to speak of the matter of diagnosis. Recurring pain or tenderness in the right inguinal or lumbar region at intervals of a few weeks, he said, should excite suspicion of the presence of a foreign substance in the appendix. Sometimes the accumulation of fecal matter in the cæcum could be determined by palpation. The diagnosis from invagination was not difficult, since the latter occurred chiefly in infancy, was attended by a tumor more centrally located, and was often accompanied with bloody stools and fecal vomiting. Perityphlitis had sometimes been mistaken for hip disease; but the swelling in the latter was lower down, and in perityphlitic induration the characteristic signs of disease of the hip-joint were absent. Dr. Smith also referred to Senn's hydrogen-gas test for perforation and to the diagnosis between perityphlitis and psoas abscess.

The prognosis varied greatly in different cases. If the inflammation were of little extent and encapsulated, and sepsis did not occur, the prognosis was good. On the other hand, if the perforation of the cæcum or appendix were of considerable size, with the escape of much feculent matter, the inflammation which resulted in the peritoneum or retro-peritoneal tissue, with perhaps consecutive septic inflammation in adjacent organs or tissues, was almost certain to terminate fatally. It was evident that the statistics relating to the result, as given by different writers, varied according to the extent and severity of the disease in the cases which they had collated. Having mentioned the relative number of deaths and recoveries published by various authors, he said that according to Matterstock age influences the result in a measure, since of 12 patients under the age of six years, 11 died; of 24 between the ages of six and ten, 15 died; and of 34 between the ages of ten and fifteen, 23 died. Diffuse peritonitis was usually fatal, while evacuation of the abscess into the cæcum or rectum generally justified a favorable prognosis. Evacuation of pus through the abdominal walls, if it took place at an early date, was also regarded as favorable. Laparotomy and evacuation of the pus through the abdominal walls, if performed at the proper time, and with antiseptic precautions, increased the chances of recovery. In those mild cases in which the inflammation was of slight extent, and the patient was soon convalescent, a sudden aggravation of symptoms sometimes occurred from breaking loose of the inflammatory products, and the case ended fatally.

Dr. Smith spoke first of prophylactic and then of curative treatment. In dealing with the latter he referred particularly to the plan of Professor Henoch, of Berlin, who keeps the intestines perfectly quiet by opium, and only gives castor oil or calomel when prolonged constipation and palpation indicate the presence of a large fecal accumulation in the cæcum. Otherwise, he abstains from purgatives. He applies a few leeches, without after-bleeding; if there be much tenderness, gives an emulsion of oil with the aqueous extract of opium every two hours, and uses constantly the ice-bag over the cæcum. When with this the pain and tenderness cease, it is found that defecation usually occurs spontaneously or can be produced by a simple enema or a dose of oil. Henoch has made the following remarkable statement, which, were it not for his well-known accuracy and high professional standing, might be thought to be an exaggeration: "When this treatment was begun early enough, recovery ensued in almost all cases, and if a swelling had been formed by the exudation, its transition into suppuration

was prevented even in children who, in the course of a few years, had been repeatedly admitted to the hospital on account of relapses."

Dr. Smith thought that Henoch's treatment was probably the best that could be adopted before the stage of suppuration. The use of laxatives, even of laxative enemata, he said, should be postponed until the tenderness and other inflammatory symptoms had to a considerable extent abated by the use of opium and the ice-bag. If, then, the presence of fecal masses were ascertained by palpation, a large clyster of warm water containing one ounce each of glycerine and sweet oil, might be given, or perhaps, as recommended by Henoch, a dose by the mouth of castor-oil or calomel. Even at the commencement of the treatment Dr. Smith thought it proper to employ such a clyster as that mentioned if there were a history of constipation, and if on palpation the cæcum appeared to be distended with fecal matter. The diet should consist of liquids which leave little residuum, such as the beef peptones and peptonized milk. Carbolized water might be allowed to relieve thirst or nausea. If the case resulted favorably without surgical interference, the child should lead a quiet life, avoiding violent exercise for a considerable time, on account of the danger of relapse.

If the inflammation continued and a perityphlitic abscess formed, this required opening. In 1882 Dr. R. F. Noyes collated the records of one hundred and nineteen cases in which an operation was performed, only about sixteen per cent. of which proved fatal. The late Dr. H. B. Sands strongly objected to the use of the exploratory needle at an early stage of the inflammation, since it might penetrate the healthy peritoneal cavity and pierce the intestine, and if the instrument entered the abscess the foul substance adhering to it would probably infect the peritoneum and cause diffuse peritonitis. Morton stated that the aspirator needle should never be used, and Ransohoff also objected to it. G. Buck, Weir, Noyes, and Bull advised, if the presence of pus were determined by the needle, to leave the latter *in situ* to serve as a guide in making the incision.

After referring to the various incisions practised by different surgeons, he said that laparotomy had been performed many times during the last ten years, and cases had been published showing very favorable results. Still, it was not to be forgotten that the favorable cases were much more likely to be reported than the unfavorable ones. Having described successful cases reported by Drs. Sands and Homans, he went on to say that such cases show what may be accomplished by surgical treatment even in cases where diffuse peritonitis has resulted. Of course, however, when peritonitis not limited by adhesions occurred, death would result in a considerable proportion of cases under any treatment whatsoever.

Removal of the perforated and diseased appendix, when it could be readily brought into view, was now generally recommended by surgical writers, since the diseased appendix was a source of irritation, and by the subsequent escape of fecal matter it might cause a renewal of the inflammation. But in a large proportion of cases the appendix lay at the bottom of the cavity, surrounded by adhesions, so that it could not be removed without considerable cutting and tearing of the parts surrounding it, and perhaps producing an opening through which inflammatory products might escape into the peritoneal cavity. In regard to the surgical treatment of perityphlitis and the perityphlitic abscess, however, he thought the surgeon was more competent to express an opinion than the physician.

Dr. Edward G. Janeway said he only desired to direct attention to a few practical points, and especially in reference to the question how far liable are we to make mistakes in diagnosis. He then proceeded to enumerate some of the conditions which were liable to be sometimes mistaken for appendicitis or perityphlitis, and *vice versa*. Among them were the following: Neuralgias affecting the right iliac region and adjacent parts. In making the differential diagnosis an important point was to ascertain whether the tenderness was located superficially or in the deeper tissues.

Renal Colic.—The pressure produced by appendicitis was sometimes liable to cause pain in the region of the right kidney, and this was especially the case if the abscess became situated down between the rectum and bladder. Here it was of service to make deep pressure in the seat of the appendix.

Fecal Impaction.—He had met with two cases of this in children where the question of appendicitis arose.

Inflammation of the mucous membrane, in certain rare cases without any impaction or induration. The way in which the symptoms come on, however, if the cases are investigated carefully, would generally show that we had to deal merely with a case of catarrhal enteritis especially affecting the colon. The diagnosis would also be established by the prompt subsidence of the trouble.

Carcinoma of the Cæcum.—This, of course, was only met with in adults, and was a rare condition. Pelvic cellulitis and peritonitis in young girls as well as women. Many such case were doubtful when the physician was debarred from making a vaginal examination. Reflected pains, as from pleurisy and pneumonia. The earlier stages of certain cases of typhoid fever. Lumbar abscess from caries of the vertebræ. Subphrenic pneumohydrothorax.

While the diagnosis was usually very easy, in some instances it was extremely difficult. As to the matter of operation, he thought that there was not a sufficiently strong line drawn between the cases in which general peritonitis occurs at the outset and those in which the trouble is strictly localized. In the former class the patients almost invariably did badly. A question of far more importance was this: If we have appendicitis with induration, is peritonitis likely to result? It was often a difficult matter to decide whether to operate or not. He supposed, however, that it was probably the wisest course to open the abdomen in all cases where appendicitis is followed by peritonitis. In regard to abscess, the abscess should be opened at the earliest moment after a purulent accumulation is discovered. As to exploration with the hypodermic needle, it seemed to him that such a procedure was absolutely injurious unless practised with special precautions. It should only be resorted to, he believed, with the child under ether and as a prelude to incision. To make such an exploration and then not do anything for, say twenty-four hours, was a course that could not be too strongly condemned.

Dr. Charles McBurney said he was sorry to see that Dr. Smith still adhered to the terms perityphlitis and paratyphlitis. It was liable to lead to confusion by giving rise to the idea that that there were quite a number of diseases which produced the condition in question, when as a matter of fact the appendix was almost invariably the seat of the original trouble; the cases in which this was not so being extremely rare. He agreed with Dr. Janeway that the most interesting and important question to be considered was the one of arriving at a correct diagnosis at the earliest possible moment. In his opinion the physician and the surgeon should study each case together from the very beginning of the attack. The surgeon was very commonly called in at too late a time, when operation could only result in failure, and as an illustration he narrated a case in which he was asked to operate after the attack had lasted six days, general septic peritonitis had set in, and the patient was already in a state of collapse.

The early localized signs were of great importance, and if we hoped to save our cases it was generally necessary that we should decide within the first twenty-four hours whether to operate or not. He had no desire to operate in cases which did not require surgical interference, and therefore he was especially interested in the matter of early diagnosis in the different varieties of cases

that were met with. The operation (by which he meant the opening of the abdomen in order to make a diagnosis) was certainly not a very severe or dangerous one. One very noticeable point was the fact that even in a large number of cases where a deliberate laparotomy was performed and a considerable amount of manipulation was required, he did not know of a single instance in which septic peritonitis had resulted from the operation. The mortality from the operation was very slight, and the percentage of deaths, as shown by the statistics, was certainly very much less in those cases operated on at the proper time than in those in which either no operation was performed or it was resorted to at too late a period. We were often told that we must wait till signs of septic peritonitis had occurred; but what course could be more dangerous than this, when the very object of operating was to prevent peritonitis? As to the signs of impending perforation, which we were also told to wait for, he did not know what these signs were, and should very much like to be informed.

As to some of the results obtained from operating in the early stages, Dr. L. A. Stimson had reported five cases without a single death. His own cases amounted to twenty, and all had recovered but one. The fatal result in this case was caused by paresis of the entire intestine, and he was convinced that this was due to too long delay in operating. Such results are certainly better than those given in the statistics quoted by Dr. Smith. If the patients who were not operated on did not have septic peritonitis, they were liable to suffer in other ways. The appendicitis was apt to go on to abscess, and he knew of two cases in which when relapses occurred there was extensive burrowing of pus. If the appendix were removed by operation the patient was saved all future trouble of this kind. The thing that he most feared in connection with appendicitis was the allowing of a case which ought to be operated on early to go on too long without interference.

Dr. Charles A. Leale narrated a case of abscess in which he had operated successfully under very discouraging circumstances. He thought the use of the exploring needle could not be too emphatically condemned. In addition to other evils, it was apt to increase the peristaltic action of the intestines, and sepsis was liable to result. Surgeons sometimes said it was too late to operate, but he thought it was never too late to operate. As an illustration he referred to a case which occurred many years ago, in which Dr. Willard Parker and several other surgeons were called in consultation, and the result of the consultation was that an operation would be hopeless, and should not therefore be attempted. Afterward the family sent for Dr. Parker alone, and asked him to operate. He did so, and as a result of this procedure the patient was alive to-day. If there was one chance in a hundred for the patient, he thought that he ought to be given this chance.

Dr. McBurney having been asked by Dr. Oberndorfer upon what signs he would rely in deciding the question of whether to operate or not, stated that this was a matter in regard to which it was practically impossible as yet to lay down any definite rules. In general he would say, however, that if he found a patient who had pain in the right iliac region, but with no fever, vomiting, or special interference with any function, and who looked well and was able to move about in bed with comparative ease, he would feel quite satisfied to let such a patient go on to the next day. If, however, the next morning he found that the tenderness had increased to a marked degree, that there was inability to move the part, that there was a well-defined point of exquisite sensitiveness, and that the temperature was over 100° F., he said he should tell such a patient that by an operation for the removal of the cause of his trouble he could almost certainly cure him and prevent the recurrence of anything of the kind in the future; while if the operation was not done, he would be likely to die of septic peritonitis, and if this did not occur an abscess would probably result, and he would be liable to dangerous relapses from time to time.

There were other cases which were very grave from the first. There would naturally be no tumor thus early, but extraordinary tension of the abdominal muscles on the right side would be found. There would be rapidly increasing tenderness and marked constitutional disturbance. Such cases he would not leave a single hour unoperated on. Dr. McBurney said he laid considerable stress on the amount of constitutional disturbance. The temperature, however, was often not at all high, and in some of the worst cases it was not above normal.

Dr. Smith, in closing the discussion, spoke first of the difficulty in making an early diagnosis in many of the cases. The seat of pain, as Dr. Janeway had remarked, was often deceptive, and he had met with one instance in which it was principally located in the upper part of the lumbar region, and another where the pain was in the situation of the right kidney. As to the desirableness of calling in a surgeon on the first day, he was not entirely prepared to accept Dr. McBurney's opinion, and very few families, he thought, would be willing to consent to such a course. The surgeon would be almost sure to advise laparotomy, and when so eminent an authority as Henoch had made the statement that when the opium and ice bag treatment was begun early enough, recovery followed in almost all cases, he did not think that such a measure was called for in the early stages.

Inoculations for Pulmonary Tuberculosis.—Dr. H. J. Boldt made a few remarks on this subject, his object being to call attention to the work in this direction which had been accomplished by a member-elect of the Association, Dr. J. Hilgard Tyndale. For many years he had been pursuing experimental investigations upon the subject, and for the past year and a half he had met with excellent results from the inoculation of bovine virus diluted in a saline solution. Among the results noted in tuberculous patients were the following: The bacilli decreased in the sputa, hectic disappeared, cough diminished very rapidly, the weight increased, and the health generally improved. As in the case of Koch's inoculations, the constitutional symptoms after the inoculation were quite severe. Dr. Boldt felt sure that Dr. Tyndale would be very glad to explain his process and to exhibit some of his cases to any members of the Association who might be interested in the matter.

THE SOUTHWESTERN OHIO MEDICAL SOCIETY.

Regular Semiannual Session, held at Cincinnati, October 16 and 17, 1890.

The President, J. C. Reeve, M.D., of Dayton, in the Chair.

Typhoid Fever and Tuberculosis.—Dr. J. T. Whittaker, of Cincinnati, said: "Typhoid fever we know now to arise wholly and exclusively from drinking-water contaminated with the fæces of typhoid-fever patients. We get it, plainly, in our city from infected river water, and the lesson we are taught every year cries louder than the water famine of a single year for reformation in this regard. Nature has kindly lifted for us, in our immediate vicinity, great natural basins for reservoirs on the adjoining hills of Kentucky, above cities which are in reality but suburbs of our own, across a river which will soon be bridged at every block, and all that is needed is pumping stations higher up the river, at sources of more pure supply. From large receiving basins on the Kentucky shore, wherein the water might remain a week or more to settle, the streams may be conducted over a viaduct to our present basins as centres of distribution. The typhoid bacillus does not live long in fresh water, according to recent investigations not longer than a week, and whatever germs of disease are present would gravi-

tate to the bottom of the lake if quiescent, to be removed with other refuse when the basin is cleared out and cleaned. The objection of the ward politician, that our sister State might some day be an enemy, is easily met by the preservation of our present works for such a dire emergency.

"Tuberculosis we have always with us, as a result, almost wholly and solely, of contamination of the air by dried disseminated sputum. The spectre of heredity has now disappeared entirely from the etiology of this disease, with the observation that the children of tuberculous parents removed from danger of infection entirely escape the disease. Advanced tuberculosis in parents never produces the disease in the new-born, for the simple reason that the essential elements of a fecundation never show or contain the tubercle bacillus. This disease is not congenital, but contracted, acquired after birth by breathing in an infected air. All that is necessary to prevent the dissemination of this disease is to keep the sputum moist, to use cuspidors and cups half-filled with water, to be emptied daily in drains, which in turn empty in running streams. No particulate bodies can possibly arise from moist surfaces. This particular simple law contains all the essence of prevention in the case of this disease."

Dr. Whittaker next described the various agents used to limit the growth of the bacillus in the body of man, and made mention of the recent discoveries of Koch with the cyanide of gold, and more especially with the salts of cobalt, which would prevent the inoculation of the extremely sensitive guinea-pig, or check the advance of the disease in animals inoculated before. Every clinician and every pathologist believed that the time was near at hand when some agent would be found to destroy, or, more especially, to check the growth of the tubercle bacillus in the body, without damage to the cells and tissues of the body. The doctor did not believe the recent telegraphic despatches to the effect that Koch had abandoned his experiments concerning the cure of tuberculosis.

Peritonitis.—DR. DAN MILLIKEN, of Hamilton, laid special stress on the symptoms, a very pointed one being pain. The patient lies on his back, with knees elevated and soles of feet applied to the bed. This is done to prevent the bedding from touching the exquisitely tender abdomen. Abdominal respiration is abandoned, and shallow respiration takes its place. If there be any cough, the patient makes every effort to suppress it, on account of the severe pain it causes. Vomiting is an early symptom, and food is violently ejected. Diarrhœa is rare, but constipation frequent. The abdomen is retracted in the earliest stages. In the later stages the intestines become distended, and the abdominal muscles yield. The pulse is frequent and small. Respiration runs as high as 40 per minute. Average temperature to 101° to 105° F. The countenance is anxious, like a wild animal in a trap. The mind remains clear throughout the disease. The pallor is a peculiar feature, and death comes with decline of pulse and temperature. The doctor spoke of the great variation in the symptoms of the disease, and remarked that some cases were so masked that they went on to death, and the disease was only diagnosed on the post-mortem table.

The Treatment of the Insane.—DR. A. B. RICHARDSON advised the establishing of a hospital for the treatment of the curable insane of the country, to be under the care of a special staff, also a consulting staff of physicians and surgeons. He urged the better teaching of students with regard to the treatment of insanity.

Other papers were: "The Surgical Teaching of Epilepsy," by Dr. B. M. Ricketts, of Cincinnati; "Headaches," by Dr. Phillip Zenner, of Cincinnati; "Chloroform," by Dr. H. N. Brown, of Hillsborough; "Sympathetic Ophthalmia," by Dr. S. C. Ayres, of Cincinnati; "Hysterical Paraplegia in a Child," by Dr. S. P. Deahof, of Potsdam; "Cæsarean Section, with Report of Case," by Dr. J. N. Bartholomew, of Trenton; "Cardiac Diseases in Soldiers," by Dr. F. H. Patton, of the National Military Home at Dayton; "Delayed Operations in Ovariotomy," by Dr. Rufus B. Hall, of Cincinnati.

Chloroform and the Hyderabad Commission.—DR. J. C. REEVE, of Dayton, a national authority on anæsthetics, handled the commission, their sins of omission, as well as commission, without gloves, denying, and apparently proving his denial, of many of the points of their report.

The officers of the Society elected for the ensuing year were as follows: *President*—Dr. Dan Millikin, of Hamilton; *Vice-Presidents*—Drs. S. P. Deahof, of Potsdam, and R. T. Trimble, of New Vienna; *Secretary and Treasurer*—Dr. W. W. Hall, Springfield. The next meeting will be held at Hamilton, April, 1891.

The Society adopted a constitution and by-laws copied largely from those of the Mississippi Valley Medical Association.

Correspondence.

THE KOCH CURE IN ENGLAND.

(From our Special Correspondent in London.)

LONDON, November 17, 1890.

GREAT interest is being evoked in this country—both in professional and lay circles—by the announcement of Koch's alleged cure for tuberculosis. Several British physicians and surgeons have already proceeded to Berlin to study the process.

A public demonstration will shortly be given in London of the action of the remedy, Professor Koch having supplied a small quantity for the purpose. Meanwhile, in the midst of considerable enthusiasm, there are many who are judiciously reserving their opinion until further particulars are obtainable. It is needless to say that the public mind has been greatly excited, owing to the prominence given to the subject in the lay journals. A curious advertisement appeared a few days since in one of the daily newspapers to the effect that a medical student who was suffering from phthisis, and had a knowledge of German, might hear of something to his advantage on applying to the advertiser.

SHOULD THE KOCH CURE BE A SECRET?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: While corresponding with Dr. N. S. Davis in relation to the discovery by Dr. Koch of a substance which he asserts will cure tuberculosis, I received from him the subjoined communication. Believing that the views on this subject of a member of the medical profession who has the attainments and experience of Dr. Davis would be of general interest, I transmit you the letter for the MEDICAL RECORD. Truly yours,

EPHRAIM INGALS, M.D.

CHICAGO, ILL., November 22, 1890.

EPHRAIM INGALS, M.D.:

DEAR DOCTOR: I thank you for the note you sent me on the 16th inst., expressing sympathy with my views of the manner in which Dr. Koch had claimed to have made or discovered an important remedy for tuberculous diseases, as given in an interview in the *Evening Post* of the 15th inst. The reporter represented me as using some expressions directly disparaging the character of Dr. Koch that I did not use. After saying to the reporter that I could not express any opinion concerning the so-called discovery of Dr. Koch, simply because he had not informed either the profession or the public what his "lymph" was, or how it was made— neither had he or any of his assistants published or reported any number of cases treated with it by which any reliable opinions could be formed—I said that it was greatly to be regretted that so eminent a man should have been induced to publicly put forth a claim to so important a discovery without

fully and frankly stating its nature, composition, and mode of preparation. Failing to do this, and at the same time announcing that the remedy could be obtained only at a given place, and that only three or four of his medical friends or assistants had been authorized to use it, was plainly announcing a secret remedy for the cure of some of the most prevalent and fatal maladies of the human race, and in direct violation of the oldest and most universally sanctioned rule of medical ethics, which declares that it is "derogatory to professional character for a physician to hold a patent for a medicine or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or others. For if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality." I further said to the reporter that the article from Dr. Koch, published simultaneously in the *Philadelphia Medical News* and the daily secular press of this country, would be certainly followed by intense excitement and the most cruel anxiety on the part of the many thousand consumptives and their friends in all countries. The crowds that would flock to Berlin and to any other points where the "lymph" should be advertised, would far exceed the ability of the few doctors favored with a sample of the remedy to treat properly; and the cruel disappointments that would follow would elicit charges of venality and fraud, much to the scandal of scientific medicine. That each day's development of facts transpiring in Berlin, as furnished through the daily press since that interview with the reporter of the *Evening Post*, shows my predictions only too sadly true is now apparent to all, and nothing but a speedy and full publication from Dr. Koch himself of the nature and mode of preparation of his supposed remedy or "lymph" will save him and his co-workers from overwhelming disgrace. Whether the remedy ultimately proves of much or little value in the treatment of disease, the honor of the medical profession and the sacred interests of suffering humanity are wholly inconsistent with the dealing in secret remedies.

You and I know very well that the real value of any remedy in the treatment of such diseases as those called tuberculous or consumptive cannot be determined satisfactorily until it has been used by many members of the profession in the treatment of a large number of cases through a period of twelve months at least.

Respectfully yours,

N. S. DAVIS.

65 RANDOLPH STREET, CHICAGO, ILL.
November 22, 1890.

AGAIN THE QUESTION OF PRIORITY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Last week when I read in the MEDICAL RECORD the article by Dr. Forest on the subject "A method of applying plaster jackets without Sayre's suspension," I was struck with the truthfulness of the saying that there is nothing new under the sun. It was my intention to write to Dr. Forest, as I now do to you, but it passed my mind, until to-day, in reading the article in the MEDICAL RECORD, by Dr. Daniel Brown, I am reminded how unsafe it is for one to undertake to assume credit for improving methods in surgery. In relation to this method I wish to say that the device described by Dr. Forest is not new, to my knowledge, except, perhaps, the iron brackets and the grooves in the side-bars. The essentials of this device I remember to have seen published in some journal in 1883. Following the description then given I had a frame made, which was superior to the one now in question, in that it required less cloth and consequently less waste, otherwise it was of the same pattern. This I used upon three occasions in 1884—first, in a case of my own in Elmira, January 14, 1884; second, in a case in consultation at Cazenovia, N. Y., March 19, 1884, and lastly, in consultation, on a case at Smithborough, N. Y., July 10, 1884. Since then it has rested on a shelf in a closet out of my office.

As far back as in the seventies I also used the "spring scales," in addition to the Sayre apparatus, in some experiments as to the amount of extending force employed. Later I used the scales in developing the different amounts of gravity force implied by the different degrees of incline given to the body on this frame which is now under consideration. Lastly, I used the scales in developing the graduated suspension swing that I described in the *Albany Medical Journal* for November, 1885, page 350.

C. L. SQUIRE, M.D.

ELMIRA, N. Y., November 22, 1890.

THE PRIORITY OF POST-GRADUATE INSTRUCTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The recently published letters of Drs. Roosa and Wyeth may recall to several of your readers the fact that about *ten* years ago one or more post-graduate schools were founded in this city. At least a number of meetings were held, plans were proposed, and professorships accepted. After which the faculty would adjourn for rest and refreshment. Who knows but that these schools may yet materialize, rival those already in the field, and lay claim to priority of establishment?

In the question at issue the facts appear to be as follows: For many years past post-graduate medical instruction in this city has been seriously discussed, and several schools established—on paper.

On April 4, 1882, seven members of the faculty of the University of the City of New York resigned for the express purpose of founding a post-graduate medical school. This event excited much comment in both the daily press and medical journals of that date, and, as is well known, was shortly followed by the opening of the present "New York Post-graduate School and Hospital." During the preceding winter professorships had been accepted in a proposed institution, to be called the "New York Polyclinic," but the first public announcement of this school was not made until a short time before it opened, in November, 1882. In the case of an invention or a discovery the claim of priority is usually awarded to the man who makes the first public announcement thereof, and not to the man who claims to have been the first to think about it.

It may be added in conclusion that both the "Post-graduate School" and the "Polyclinic" are doing excellent work, and have added much to the reputation of New York City as the great medical centre of this continent.

Very truly yours,

GEORGE HENRY FOX, M.D.

November 30, 1890.

'IF YOU GO TO COLORADO YOU CAN NEVER RETURN."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In the editorial entitled "If You Go to Colorado You Can Never Return," appearing in the RECORD of November 8th, there is a statement of the opinions of "physicians from Boston" which is liable to give a very wrong impression, and I deem it of sufficient importance to call your special attention to it. The statement was to the effect that in the discussion of papers at Denver, at the meeting of the Climatological Association, "physicians from Boston and other places along the seashore believed it safe for many patients to ultimately return to their homes."

In Dr. F. J. Knight's admirable paper upon this subject he gave the results of his rich experience, and cited cases of patients who had returned to the New England coast, and had lived there with apparent impunity, but I feel very sure he would not wish it to be understood that it is a safe experiment for the majority of cases.

In the discussion of the paper I distinctly took the

ground, judging from a comparatively short experience of nine years' practice, that although there were doubtless marked exceptions to the rule, yet the experiment of returning to the climate where the trouble arose was always attended with risk, and quoted the teachings of my father, Dr. Henry I. Bowditch, who has always maintained that it is better for the patient to remain in the place where he has regained his health, and that a return to the New England coast, except for short visits at favorable seasons, is fraught with danger, as shown by numerous examples, with some exceptions.

As Dr. Knight and myself were the only "Boston physicians," I believe, who spoke on this subject, I felt I ought to correct an erroneous impression given by the editorial mentioned.

Respectfully yours,

VINCENT Y. BOWDITCH, M.D.

113 BOYLSTON STREET, BOSTON,
November 10, 1890.

"THE TEMPTATION OF JOHNS HOPKINS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Just at the time that an article under this heading appeared in the RECORD, a reception was given at the Johns Hopkins Hospital to delegates from the Ladies' Committees who are engaged all through the country in collecting the Women's Education Fund in aid of the proposed school of that hospital. The delegations, which comprised more than a hundred women from all the principal cities of the Eastern States, were headed by Mrs. Harrison, and were composed of women well known in society, literature, in charitable and progressive work of all kinds.

They were met by the trustees, presidents, professors, and physicians of the university and hospital, and by many of the most prominent women of Baltimore. The women met to congratulate each other on the success of the first step of their enterprise, and to become acquainted with the institution. The authorities of the university and hospital met there to welcome them, and explain to them more fully the character of the school they desired to found.

There was a striking contrast between the dignified and large-minded tone of the meeting, and the singularly narrow and ungenerous tone of the article in question. Standing in the middle of the noble buildings of the hospital, with the evidence of almost unbounded expenditure on every side, the insinuation that Johns Hopkins proposed "to sell its privileges for the inefficient sum of $100,000," and that it was being induced to adopt a course derogatory to its dignity "by the persistent nagging" of a few women, seemed ludicrous. But it is something more than ludicrous that a metropolitan journal could take so petty a view of the question, and treat it in so unworthy a style. To disapprove of the course of the university is fair enough, but to insinuate that its authorities were bribed or cajoled into a course so deliberately adopted, is an insult to the university and to the large constituency of women represented at the meeting, which a leading journal should have more self-respect than to permit itself to offer.

It shows an entire misunderstanding of the situation to say that the success of a few colleges for women proves the absence of any necessity for such action on the part of Johns Hopkins. Every physician knows that it is only the few schools that are based upon great endowments that can rise to the level of university instruction, for this implies large investments for a small class of advanced students. It implies a school that is not "popular," which ignores pecuniary results, and exacts a quality which precludes numbers. Such institutions as Johns Hopkins must be few in number, and cannot be duplicated for the benefit of women. Ordinary colleges, whether for men or women, cannot hope to offer such exceptional opportunities for the comparatively limited class of students who can avail themselves of them.

It is just on this highest level that co-education in some form becomes necessary, if women are to attain this higher plane of study. It is certainly no discredit to the university that it recognizes the justice of the requests of women to share in this higher education, nor to that of women that so wide-spread a desire should be manifested on their part to secure it.

As for the sneers in which the writer of the article in question indulges, they are fortunately more effective as a measure of his own good taste and liberality of spirit than of the character or value of the movement which he ridicules.

EMILY BLACKWELL, M.D.

NEW YORK, December, 1890.

[We are always pleased to give a hearing to the other side, and welcome Dr. Blackwell's criticism accordingly. No one is better able to speak for women than she who has herself done so much to advance female education, and there is none whose opinion is entitled to more respect.—ED.]

MR. TAIT AND HIS PATHOLOGY.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of September 20th you do me the honor to make me the subject of a leading article, with the general tenor of which I have no reason to find fault.

I have, however, just reason to remonstrate with you when you make it appear that I wish the surgeon to sink to the level of a mere craftsman, and that I despise and condemn a good training in anatomy, physiology, and pathology. I do nothing of the kind, and there is nothing in the address which was the object of your criticism which would justify such a conclusion. My argument was the converse, and to the effect that, while being well-trained in anatomy, physiology, and pathology, those who attempt to play the part of surgeons should be taught how to use their hands, and at present they are not so taught —and most of them show their deficiency.

You pass from this to some personal abuse to the effect that "Our great trouble with Mr. Tait is that his pathology is so much at fault that he holds it in contempt. We are apt to do so with our weak points." Your weak point is that you know very little about my pathology, and you are strangely ignorant of the literature of your own country, indeed of that of your own city, in fact I may say you don't know the literature published by Wood & Co., of New York, the firm that runs your own journal.

In your issue of August 23, 1890, at page 211, occurs a long quotation beginning "In 1885 Breisky brought to the attention of the profession a condition of the female pudenda which, although not infrequent, seemed so far to have escaped description, etc., etc."

In Wood's Library of Standard Medical Authors, is a volume on "Diseases of Women," by Lawson Tait, published in 1879, in which (pp. 25 and 26) you will find a far more complete account of the disease and its pathology than is given by Breisky.

I could quote many passages from your own columns where terms of the most appreciative praise of my own work in the pathology of the Fallopian tubes, the ovary, the uterus, and the peritoneum occur, sentences which are wholly irreconcilable with the conclusion of your leading article that "Modern surgical science will not wait even for a Tait to catch up." You complain that I am contraversially disposed, and I certainly am, when I get such good reason as you have given.

I am, etc.,

LAWSON TAIT.

[The very courteous and modest note of Mr. Tait convinces us that we have been in error in appreciating the real line of his argument and in properly understanding its drift. Nor was any personal animus intended in pointing out what we believed to be one of his weak points. It is not always necessary in examining evidence

to abuse the witness. We are, however, glad to be set right on our distinguished contributor's pathology by such direct and impartial testimony. Still the field of gynecological pathology is such a large one, that even our talented cousin may not at all times be able to cover it effectually.—ED.]

AN ANSWER TO DR. BROWN'S CORRECTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of November 22d, Dr. Daniel Brown takes me to task for putting forth as my own, a method for applying plaster of Paris jackets, the credit for which should properly belong to him.

In my article published November 8th, I make this statement: "Permit me to say that Dr. Daniel Brown of this city, first suggested to me the use of a frame with a sheet stretched across. The cross-bar for the child's hands, the use of the frame in a leaning position so as to get good extension, and the practical application of it in spinal diseases should, so far as I know, be credited to myself."

It will be seen at once that my claims are very modest, and that I gave in my article credit to Dr. Brown for all suggestions of his that I used.

As he makes no claim to suggesting the use of the cross-bar, and rejects as absurd the use of the stretcher in a leaning position in order to get extension, and as it is a fact that he never in his life used an apparatus of this kind nor saw one used (at least he had not two weeks ago), wherein have I wronged him in my three humble claims?

The stretcher that Dr. Brown suggested is simply a slight modification of the well-known hammock method of putting on plaster jackets, and is suggested by the latter, the essential details being the same in each, so that, had I committed the enormity the doctor seems to think I did, and given to the public his idea without giving him all the credit he thinks he is entitled to, still the theft would not have been a great one. However, my article proves that I did not take Dr. Brown's suggested suggestion without giving him all the credit he deserves, and therefore I should stand acquitted.

Dr. Brown says: "Under the circumstances the profession will not fail to appreciate the advantages of inventing from a plan, a model, or drawing, appropriated and lying before you, especially if the inventor has a description with the draft. Invention then becomes as easy as the friends of Columbus found it to stand an egg on end after seeing him do it."

When this statement is stripped of its metaphors, verbiage, and inuendoes, it means, if it means anything, that he showed me models, drafts, and descriptions of the apparatus. This he certainly did not do, nor was it necessary. Simply suggesting a stretcher to be used like the well-known "hammock" method would be all sufficient. The models existed only in the doctor's present fertile fancy.

Another point concerns not a possible mistake on the doctor's part, but a wilful and deliberate misstatement. When he implies that I presented the apparatus before the New York Medical Union a year ago without giving him the credit of having suggested it, he repeats a statement that was never true, and one that has been corrected publicly in his presence.

Let me close by giving the doctor a suggestion in return for the one he gave me.

If in the future he should chance to run against a good idea, and if after turning it over in his mind for three or four years he still has not the energy or skill or opportunity to put it in practice and report upon it, he should not feel grieved, but should rejoice rather, when some one else tries it, and, if good, gives it to the profession at large, while they give to him the credit of having suggested it.

W. E. FOREST, M.D.

39½ WASHINGTON SQUARE.

LIBRARY OF THE NEW YORK HOSPITAL.

ERROR CORRECTED.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: On the recent inauguration of the new Academy building, an address was delivered by one of the speakers upon the subject of "Our library," which contained the following very erroneous statement: "Thirty-three years ago, when I was admitted a member of this Academy, there was no medical library or medical reading-room in this city." Whence the writer got his information I know not, for so frequently has the history of the library of the New York Hospital been written and published by city compilers and by United States Government officials that it seems that one possessed of the general information of the speaker should have known that the library of the New York Hospital was founded in 1796, and that when he became a member of the Academy it contained six thousand one hundred and eighty volumes, occupied three apartments, two of them on second and third floors of the old hospital, joined by an iron staircase. All this was as far back as 1857. Thus it appears that our city had a medical library of no mean capacity thirty-three years ago which was used by the profession and by students of medicine.

JOHN L. VANDERVOORT, M.D.,
Librarian.

"ESSENTIAL HYDROPS."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It may not be too late to suggest a cause which may have brought about the dropsical and other symptoms detailed by Dr. Marcell Hartwig, of Buffalo, in the RECORD of September 27, 1890, as occurring in his practice, in the person of a young woman; to which group of symptoms he applies the name "Essential Hydrops," and considers it as a discovery, an unchristened and unrecognized member of the already too extensive family of human ills. There is one condition, not rare, which may give rise to the pathological picture described by Dr. Hartwig, namely anæmia. Young women of tuberculous stock are prone to become anæmic. If so, they are "pale," menstruation is "irregular and scanty," although during the early development of the anæmia they may have been considered in good health. In pronounced anæmia of young women regional dropsy, or even general anasarca, is a somewhat common symptom. In the case under consideration the rise of temperature may have been caused by the influence of vitiated anæmic blood on the central nervous system, or again, it may have originated when the doctor settled the point of *virgo intacta*. It seems to me that anæmia would explain the pallor, weakness, menstrual troubles, fever, dropsy, and easily excited circulation. Some preparation of iron might have dispensed with the polypharmacy. In conclusion, I would say that all honor is due the describer and conqueror of a hitherto unrecognized disease; but only after mature study and elimination of common causes of a set of symptoms, should an addition be made to a long list of diseases. I venture this communication as the doctor has not excluded anæmia, nor has he even mentioned it; and, as I have, on my books, the record of a case almost exactly similar, which had been diagnosed as chronic parenchymatous nephritis by a well-known Philadelphia physician, but which rapidly recovered on correction of diet and with the use of iron. This young woman is well after four years. Her disease was diagnosed by me as anæmia, which diagnosis was confirmed therapeutically, and by her prompt return to health.

I am, sir, yours faithfully,

V. HAVEN ROSS, M.D.

BUFFALO, N. Y., October 13, 1890.

New Instruments.

THE KOCH LYMPH SYRINGE.

We have the pleasure of presenting to our readers an illustration of the Koch Lymph Syringe, which we have just received from Mr. E. Kraus, of Berlin. The instrument is worked by means of a rubber bulb instead of the piston used in ordinary hypodermic syringes. The cylinder, which is glass, has a capacity of two grammes, is accurately graduated, pointed at one end to receive the shoulder of the hypodermic needle, and squared at the other to adapt itself to the bulb attachment. The cylinder, after being filled with the requisite amount of lymph, is then attached to the bulb, the stop-cock of which has been previously shut. After the needle is inserted under the skin the stop-cock is opened and the fluid injected by pressure upon the bulb. The advantages claimed for the instrument are its simplicity, efficiency, and the ease with which it can be kept clean.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 23 to November 29, 1890.

Ewing, Charles B., Captain and Assistant Surgeon. By direction of the Secretary of War, in addition to his present duties, is assigned to duty as examiner of recruits at St. Louis, Mo. S. O. 275, par. 7, Headquarters of the Army, A. G. O., Washington, D. C., November 24, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending November 29, 1890.

Crawford, M. H., Passed Assistant Surgeon. Ordered to the Receiving ship Independence.

Marsteller, E. H., Passed Assistant Surgeon. Ordered to the Petrel.

Nash, Francis S., Passed Assistant Surgeon. Resigned, to take effect November 23, 1890.

Cordeiro, F. J. B., Passed Assistant Surgeon. Granted extension of leave for four months, with permission to leave the United States.

Lansdale, Philip, Medical Director (Retired). Granted one year's leave, with permission to leave the United States.

Alfred, Adrian Richard. Commissioned an assistant surgeon, from November 24, 1890.

A Point in Etymology.—Blackberries are often called bumble-kites, from bumble, the voice of the bittern, as in Chaucer; and kite or kyte, a Scotch word for belly; the name bumble-kite being applied, says Dr. Prior, from the rumbling and bumbling caused in the bellies of children who eat its fruit too greedily. The blackberry fruit has also acquired the name of scaldberry, from producing, as some say, scaldhead in children who devour the fruit to excess, or, as others declare, from the supposed curative effects of the leaves and berries in that disease of the skin; or, again, it may be from the use of the leaves as applied to scalds.—Dr. W. T. Hernie in *The Hospital* for June, 1890.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 29, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	17	5
Scarlet fever	79	10
Cerebro-spinal meningitis	2	4
Measles	236	12
Diphtheria	86	22
Small-pox	1	0
Varicella	9	0
Pertussis	0	0

A Few "Pointers" for the General Practitioner. *Fracture Dressings.*—A very valuable suggestion I received in the Windy City was in regard to the lightest kind of a fracture dressing. Plaster bandages are heavy and disagreeable to apply; the same can be said of starch and the others. Get the stuff called "wiggin," used by the fair sex to stiffen certain portions of their clothing. Make it into the necessary size bandages, and when needed soak in hot water and apply; in a short time you have a light, hard dressing, which can be covered with shellac, cut with a sharp knife, and laced as a corset or shoe.

A Reflector.—We all have to throw a light into some cavity of the body at times, and the stronger the light the better, but the beautifully nickel-plated, double lens concentrators cost more than we, perhaps, can just now afford. So, until our cash account grows, we will take a common police dark lantern, cut the rim from top and bottom, solder a piece of reflector on the posterior wall and set it on any kind of a lamp, and if the chimney won't fit inside put it on top, and you have a good concentrator of rays, and one which you can throw in your bag to carry and use anywhere.

An Insufflator.—After you have turned the light from this down someone's throat they will remember that the baby has an earache, and as you will need something better than the paper cone to blow the necessary boric acid at the diseased part, we will manufacture an insufflator; take a hard-rubber thermometer case and an atomizer bulb, cut the thermometer case in half, drill a hole in the small end, and at the other wind a piece of stiff paper tightly, letting the paper project about an inch beyond the tube; now take the other piece, open up the end and attach the atomizer bulb, cut the other end bias, making a lip with which to scoop up the powder; fit in the paper, squeeze the bulb, and you have quite a respectable powder blower.

Hæmostatic Forceps.—One who is liable to get surgical cases should not be without half a dozen pairs of hæmostatic forceps ready to hand; but if we are not the possessors of these valuable inventions of Tait, we go to a furnishing store and get a card of the ordinary clips one finds on the anterior extremity of our suspenders and on sleeve holders; for ten cents you have a dozen pair of hæmostatic forceps that have held a femoral artery in several cases. They are not built on the antiseptic plan, but boil and soak them in carbolic acid, and the germs will be too ill to cause any trouble.—Dr. H. A. Starkey, *Medical Times and Register.*

Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, will be made on July 14, 1891. Essays intended for competition may be upon any subject in medicine, and must be received by the Secretary of the College, Dr. Charles W. Dulles, on or before May 1, 1891.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 24. Whole No. 1049. | NEW YORK, DECEMBER 13, 1890 | $5.00 Per Annum. Single Copies, 10c.

Original Articles.

ACTINOMYCOSIS OF THE LUNG;

BEING THE JOSEPH MATHER SMITH PRIZE ESSAY FOR 1890.

BY EUGENE HODENPYL, M.D.,

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IN 1878 J. Israel showed that actinomycosis, first described in animals by Porroncito, in 1875, also occurred in man; and it was early shown to be due to the presence of actinomycis, or the "ray fungus." Since that time upward of three hundred cases have been reported, and actinomycis has been given a provisional place in our present classification of the bacteria. It has several times been isolated, grown on artificial culture media, successfully inoculated into animals, and, in fact, is now definitely proven to be the cause, and the only cause, of the disease.

The disease is wide-spread, having been observed in almost all parts of the world, although the greater number of the cases have been in certain parts of Germany, Russia, and Austria. But few cases, comparatively, have thus far been recognized in this country. So large a number of cases have been seen during the past two years, it would seem as if the disease were actually on the increase; or, as is more probable, with the more widespread knowledge among physicians of the malady, it is more frequently recognized. Actinomycosis, in man, has been observed in almost every organ and every tissue of the body; although, as is also the case in animals, the disease more commonly affects, primarily, the regions about the jaws. Rutimeyer estimates that about fifty per cent. of all cases are of this class, in twenty per cent. the lungs, and in fifteen per cent. the gastro-intestinal tract are the parts first involved.

For the following two cases I am indebted to Drs. F. Delafield, and Charles McBurney.

CASE I.—S. O——, aged eighteen, female, native of Sweden. Admitted into Roosevelt Hospital. For past six months has not felt well. For three weeks previous to admission has suffered from pain over the right side. Dyspnœa, severe cough with profuse fetid expectoration, fever, night-sweats. On admission, patient pale and emaciated; pulse, 104; respiration, 32; temperature, 98° F.

Physical Examination.—Over the right side of the chest, from the spine of the scapula to one inch above the angle, dulness, thence downward, flatness. Over the dull area bronchial voice, breathing, and whisper; over the flat area diminished breathing and distant voice. Vocal fremitus less marked than on the left side. Over the left side exaggerated breathing and distant voice, with a few subcrepitant râles. The dulness over the right side gradually extended to the apex, so that the lung became completely consolidated. Patient complained of constant pain over this side, which was also painful on pressure. The cough, with offensive expectoration (not examined microscopically), continued. The fever was constant but irregular, and was accompanied by attacks of sweating. An area of redness, swelling, and fluctuation formed over the right side, just below the costal border, which was incised, and about one pint of pus evacuated. The patient gradually grew worse, and finally died, exhausted, about five months after the commencement of the disease.

Autopsy, by Dr. Delafield. Left lung very large and œdematous. There is some diffuse hepatization over the upper part of both lobes. Right lung completely adherent to the chest-wall. Bronchi contain pus. Lung completely consolidated, with thickening of the connective tissue, and a very general broncho-pneumonia.

The lung is of fair size; no part of it is gangrenous. There is a small collection of pus shut in behind the posterior aspect of the right lower lobe, just above the diaphragm, and communicating with the abscess in the back. There is a suppurating sinus behind the lung, between the pulmonary and costal pleuræ, running up along the vertebral column; and behind, the ribs and vertebræ are eroded. The lung emitted a peculiar fetid odor, similar to that which had previously been noticed in the sputum. The other organs showed no gross lesions. On account of the fetid odor, and the absence of gangrene, or other distinctive features in the lung, it was suspected that the case was one of actinomycosis.

Microscopical Examination.—By a variety of inflammatory processes the lung has become profoundly altered. The larger bronchi show intense bronchitis. In the medium-sized bronchi, besides inflammation, there is well-marked dilatation of some. In others there is further added a growth, into their lumina, of organized connective tissue containing blood-vessels (see Fig. 1). Although growths of organized connective tissue into the lumina of the air-vesicles are not infrequently seen, similar growths in the bronchi, especially in those of considerable size, have not, so far as I know, been described. The walls of the bronchi are infiltrated with pus-cells, and the surrounding air-vesicles are hepatized, or are the seat of interstitial pneumonia.

The smaller bronchi are very generally converted into little abscesses, and frequently, imbedded in these pus-foci, actinomyces are found, usually surrounded by a zone of necrosed cells. While some stain diffusely and with difficulty, and are of a homogeneous or finely granular character, even sometimes calcified; others show fairly well radiation, and with the Gram method the usual hair-like threads of the bacterium. None of the clusters, when examined in water or glycerine, show the usual club-shaped extremities to the threads.

Scattered about the lung, and making up about one-third its entire bulk, are patches of dense fibrous tissue, in which no trace of the former structure is preserved. In other parts are seen various phases and combinations of simple hepatization, with interstitial and intra-alveolar (organized connective tissue) pneumonia. In places the air-vesicles are filled with desquamated epithelium, pus-cells, and fibrin. In other places, either with or without exudation, the walls of the air-vesicles are thickened, and growing into the lumina of some of them are growths of organized connective tissue. Here, as is sometimes observed in these intra-alveolar growths, the cells covering them and lining the air-vesicles and air-passages are of a cuboidal shape. That is, they have reverted to their fœtal type. The blood-vessels generally are the seat of arteritis, with thickening of their walls.

CASE II.—J. F——, aged thirteen, school-girl. Patient was perfectly healthy up to three months ago, when she had an attack of broncho-pneumonia from which she never entirely recovered, but has continued to cough until the present time. Six weeks ago she noticed a painful

swelling over the right shoulder-blade, which has gradually increased in size. On admission into Roosevelt Hospital the swelling over the scapula measured six by four inches. It was incised, and a considerable quantity of pus and necrotic tissue was evacuated. The cough, which was accompanied by considerable expectoration, gradually increased in severity. Shortly before death an abscess formed in the right axilla, which was evacuated. Death took place about four months after the commencement of the disease.

Autopsy.—Left lung, a few old adhesions and some fresh fibrin on the pleura. There was broncho-pneumonia of the lower lobe.

Right lung completely adherent to the chest-wall, except over a small part of the lower lobe. Pulmonary pleura over the upper lobe is very much thickened. The bronchi are congested and their walls thickened. There are small zones of peri-bronchitic pneumonia in the upper and lower lobes. The upper lobe is small, and bands of fibrous tissue run into it from the pleura. The bronchial glands are enlarged, but not cheesy. The first, second, and third ribs are eroded.

FIG. 1.—A Medium-sized Bronchus, Showing an Ingrowth of Organized Connective Tissue.

The other organs showed no gross lesions.

Microscopical examination showed almost the same minute lesions as has been described in Case I., except that in this case they were developed to a lesser degree. The bronchi contained large numbers of actinomyces.

Summary of Symptoms and Lesions in Pulmonary Actinomycosis.—I have found records of thirty-four cases of the disease, including the two just described. Mossburger, Baumgarten, Eichwald, Ullmann, Mossdorf-Birch Hirschfeld, Koschlakow, Munch, Canali, Petroff, Weigert, König, Conti, Rotter, Paltauf, Wildermuth, Wolff, each a single case; while 5 are by J. Israel; Ponfick, 2; Jakimovitsch, 2; Golubrim, 2; Braun, 3; and Szemasy, 2.

Of these, fourteen include a description of the autopsy. The following summary of the symptoms, lesions, treatment, and certain points in diagnosis, is based upon these cases.

Pulmonary actinomycosis may be defined as a chronic, infectious disease of the lung depending upon the presence of actinomyces. It may further be characterized as being attended with fever, cough with more or less profuse, often fetid, expectoration, pain in the affected side, progressive emaciation, a well-marked tendency to the secondary involvement of adjacent parts, and to the formation of secondary abscesses (actinomycotic) elsewhere. It generally terminates fatally.

As a rule, and perhaps in all cases, the living germ is first taken into the bronchi, and from thence gains access to the parenchyma of the lung.

The ages of the patients varied from nine to sixty-three years; although the majority of the cases were in young adults, and a somewhat larger proportion were in males than in females.

Fever was present in nearly all cases. Usually it was one of the first symptoms, but sometimes it did not come on until later in the course of the disease; it was constant, but of an irregular type, and seemed dependent upon the extent and nature of the lesions, and later by the development of pus-forming centres.

Cough and Expectoration.—Of special importance, and usually the first symptom to be complained of, is cough. It lasts throughout, generally becoming more and more severe. The expectoration varies a good deal, according to the severity of the cough. It was profuse in many cases, often spoken of as fetid, occasionally bloody, and sometimes contained actinomyces.

In Canali's unique case, that of a girl who suffered

for a considerable time from bronchitis, the only symptoms were cough, with profuse fetid expectoration containing actinomyces. The patient, who greatly improved during the summer months, continued without additional symptoms for several years, until she finally passed from observation.

Pain over the affected side was present in all but the above-mentioned case, and was as a rule constant and severe.

Attacks of sweating were mentioned in several cases.

Hæmoptyses were not observed, although the sputum was sometimes tinged with blood.

Shultz, two, Matschiuski, Kirschew, and Eichwald. The remaining nine cases were diagnosticated on finding the bacterium in pus obtained from abscesses which communicated with the lung.

In the cases in which the diagnosis was not made, no mention was made of the sputum being examined; moreover, we are not informed, in the nine cases in which the sputum showed actinomyces, at which period of the disease they first made their appearance. We are, therefore, not in a position at present to determine the earliest time during the course of the disease when we may reasonably expect to find the germ in the sputum of pulmonary ac-

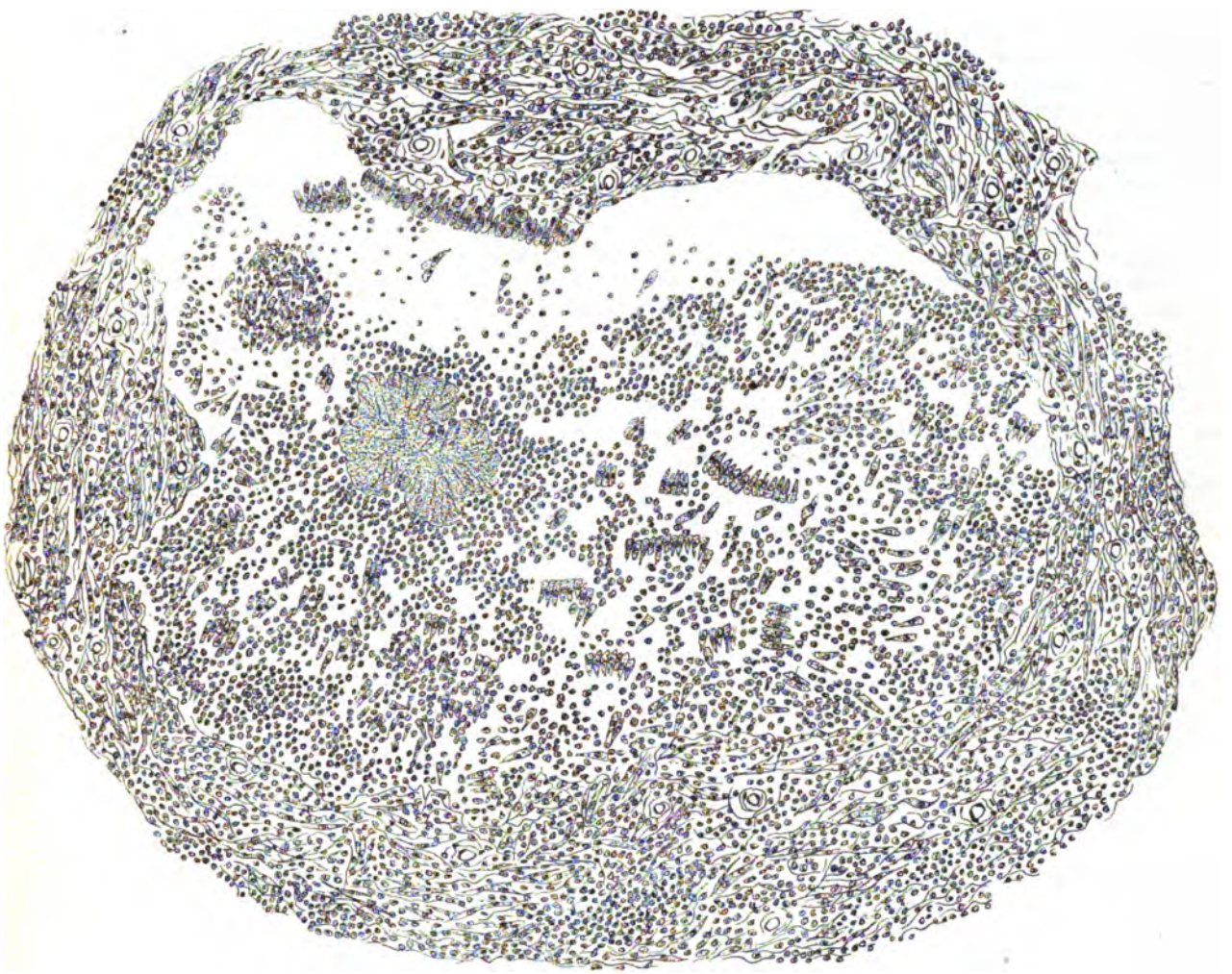

FIG. 2.—A Smaller Disorganized Bronchus Containing a Cluster of Actinomyces.

Emaciation was gradual, and often became extreme; sometimes the patient passed into the so-called "typhoid state;" or, as happened in many, other organs became involved, or extensive abscesses formed beneath the skin which, opening externally, left fistulæ into the lung. As a result of the excessive production of pus, a condition described as chronic pyæmia, and attended with chills, sometimes ensued.

Physical signs were very variable, according to the condition of the lung in the different cases. There were always signs of bronchitis, usually of consolidation, sometimes of cavities, or of empyema.

Duration.—The average duration was ten months; the shortest case lasted four months, and the longest was still living after a duration of several years.

Prognosis.—Of the thirty-four cases all have died except two. Canali's case, already referred to, was lost sight of; and Soltmann's case was pronounced cured (?) after four years.

Diagnosis.—In eighteen cases the disease was positively diagnosticated during life by the detection of actinomyces. In nine cases they were found in the sputum, in the cases of Israel, Canali, Braun, Jakimovitsch, Affanassiew, and

tinomycosis. From the fact that the bacterium has been found in sputum in large numbers, and also that it is commonly found in the bronchi after death, it is to be presumed that actinomyces are likely to be contained in the sputum during life, although in certain instances, possibly, not until the disease is considerably advanced. Inasmuch as actinomyces are the only positive evidence of actinomycosis; and since the disease in the lung may often resemble, clinically, certain forms of pulmonary tuberculosis; and further, since it may be of more frequent occurrence than is at present generally supposed; it is advisable, in the routine examinations of sputa for tubercle bacilli, to further determine the presence of actinomyces.

As found in abscesses, or when seen imbedded in the tissues, actinomyces present such characteristic appearances, microscopically, as are not to be easily mistaken. But sputum may contain certain other bodies so closely resembling the "ray fungus" that careful observation is required in order to distinguish between them. In his original monograph, J. Israel, and later Affanassiew, described masses of leptothrix as closely simulating actinomyces. Bizzozero ("Manual Clinical Microscopy," p. 141,

Paris, 1885) calls attention to certain degenerated epithelial cells; and, more recently, Loesch (Congress of Russian Physicians, St. Petersburg, 1889) to collections of leucin crystals as also liable to be mistaken for actinomyces. Although not generally mentioned in text-books on clinical microscopy, this resemblance of various structures to the "ray fungus" is of important practical value in the examination of sputum. Leptothrix threads may grow about the summits of the papillæ of the mouth, in a radiating manner, and these masses, becoming detached and mixed with the sputa, form the masses, somewhat resembling the bacterium of actinomycosis, and have therefore been called "false actinomyces." They are to be differentiated by the presence of epithelial cells about their centres, the absence of club-shaped extremities to the radiating threads, and by the thicker, coarser rods of leptothrix compared with the delicate hair-like threads of actinomyces.

Fetid expectoration is a common symptom, and is of some diagnostic importance. It was not present in all cases, nor is it confined to this disease; but it is of sufficient importance when present to suggest microscopical examination of the sputum.

Treatment.—Thus far treatment has been purely symptomatic, except in one case where operative measures were resorted to, apparently with the result of prolonging the life of the patient. It is to be remembered, however, in explanation of the present unsatisfactory results of treatment, that in many of the cases the diagnosis was not made during life, or not until late in the course of the disease, and that most of the cases were of hospital patients; consequently the treatment instituted was of necessity under unfavorable circumstances. When we recall the remarkable results being obtained from the climatic treatment of pulmonary tuberculosis, and also the facts that actinomyces withstand the action of even comparatively weak antiseptics with difficulty, and also that they seem prone to die in the tissues, and to undergo absorption or calcification, we may confidently hope that the immediate removal of the patient to a more suitable climate, together with an intelligent application of antiseptics to the bronchial mucous membrane, may give better results than have thus far been obtained. There seems to be no evidence to show that the disease may be transmitted from one person to another, although Affanassiew saw two children of the same family who were both suffering from the disease at the same time.

Pathology.—The lesions are, as a rule, unilateral in about the proportion of 3 to 1, or the lungs may be affected unequally.

They may be classified into three groups.

1. There are the lesions of chronic general bronchitis, the germ being found in the sputum, as illustrated by Canali's case. Such a variety is based solely on clinical grounds, as no opportunity has thus far been had of demonstrating such a condition post mortem.

2. Scattered throughout the lung are large numbers of small dense nodules looking like miliary tubercles to the naked eye. There is no hepatization, and such a lung resembles very closely the gross appearances of acute miliary tuberculosis. On microscopical examination the nodules are composed of clusters of actinomyces surrounded by a zone of granulation-tissue. Munch has seen such a condition in the lung of an ox, no example of this group having been seen in the human cases.

3. Comprises most of the cases of which the author's are examples. The cases vary as to the extent of lung involved. In one it was confined to the apex of the right lung. In the others the whole of the lung was involved. The affected lung was normal, or diminished in size. Pulmonary and costal pleuræ were firmly adherent. There was intense bronchitis of the larger bronchi, and a general broncho-pneumonia, more or less diffuse hepatization, and a well-marked thickening of the connective tissue (interstitial pneumonia). Although not in essential relation to the disease, large numbers of staphylococcus pyogenes aureus and streptococcus pyogenes were found in the lungs, resulting in abscesses, usually of small size, but sometimes sufficiently large to form cavities, which were diagnosticated during life. In certain parts of the body Böstion has shown that actinomyces may develop without the presence of pus. In the lungs the production of pus was an important feature of the cases. Actinomyces were found in the bronchi, broncho-pneumonic nodules, the abscesses, or sometimes in the air-vesicles.

Secondary lesions may develop in almost any part of the body. In all of the autopsies were found secondary lesions. Most frequently pus formed in the pleural cavity, usually sacculated; the ribs, sternum, or vertebræ were eroded, and abscesses beneath the skin adjacent developed; or the pericardium, heart, or opposite lung became involved; or the disease extended to the abdominal organs; or, as in a single case, to the brain. In one case the specific growth penetrated the portal vein, and metastases all over the body were formed; and in another case the vertebræ became so greatly eroded as to cause marked deformity, so that the case was mistaken for one of Pott's disease,

In many cases there was developed amyloid degeneration of the organs.

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A Lawyer on Medicine.—M. Barboux, the advocate, in a recent celebrated case in the French courts, thus paid his respects to the medical profession: "When a physician has observed one case he doesn't hesitate to generalize, and when he has met with ten he begins at once to classify them, and as soon as he has done that he makes an assertion of some kind. At the beginning of this century Broussais advised blood-letting, and things went to such a pass that it was said the leech had been enthroned. The pupils of this professor, too faithful followers of his precepts, shed more blood than ever did Napoleon in all his wars. Their successors found that the next generation was anæmic—and small wonder—and then iron was their sheet-anchor. To-day is the day of the microbe. It is found everywhere. If only they might find the microbe of foolish classifications and rash affirmations—then the cycle would be complete!" M. Barboux has evidently not much of an intellect, for he might have hit us much harder had he but had the wit.

TRENDELENBURG'S NEW OPERATING TABLE, DESIGNED FOR OPERATIONS IN THE POSTURE BEARING HIS NAME.[1]

BY WILLY MEYER, M.D.,

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MR. CHAIRMAN AND GENTLEMEN: At the last meeting of the German Surgical Society, April 9 to 12, 1890,[2] and at the last session of the Surgical Section of the Tenth International Medical Congress, August 9, 1890, Professor Trendelenburg, Chief of the Surgical Clinic at the University of Bonn, Germany, presented his new operating table, a specimen of which was brought along by me from abroad, and is now before you for inspection.

The table, made of iron, japanned, was specially constructed and designed for such operations which are performed with advantage in the posture first recommended by Trendelenburg, in the year 1884,[3] viz., for all operations inside of the bladder (supra-pubic cystotomy, especially if done for the extirpation of vesical growths, plasty for vesico-vaginal and uretero-vaginal fistula, as well as utero-vesical fistula), and for laparotomies performed for troubles which are located in the small pelvis. Extirpation of large uterine myomata and fibromata, requiring total removal of the diseased organ, resection of the small intestine for fecal fistula, resulting from a strangulated gangrenous inguinal or ventral hernia, etc.,[4] are also rendered much easier with the help of this posture.

Since the method was published, it has been tried by a great many surgeons and gynecologists in nearly every

FIG. 1.

country. By far the majority of them were exceedingly satisfied with the same. The only difficulty connected with this posture, which became especially evident in operations occurring in private practice, was to provide a proper and steady support for the patient in the reclined position, without the help of an extra nurse.

[1] Demonstrated before the Surgical Section of the New York Academy of Medicine, October 13, 1890.

[2] Centralbl. f. Chirurg., No. 25, 1890, Beilage, p. 28.

[3] Willy Meyer: Ueber die Nachbehandlung des hohen Steinschnittes, etc., von Langenbeck's Archiv, vol. xxxi., 3, p. 514.

[4] Von Langenbeck's Archiv, l. c.; and F. Trendelenburg, Ueber Blasenscheiden-Fistel-Operationen und ueber Beckenhochlagerung bei Operationen in der Bauchhoehle, Volkmann's Sammlung klinischer Vorträge, No. 355.

Until now I used to fasten a strong kitchen-chair, turned upside down, on a kitchen table, and sawed off the posterior (upper) legs of the chair at the level of the cross bar. The whole inclined plane thus formed by the back of the chair was then covered with folded blankets and a sheet, held in position by a roller-bandage. On this the patient was put, pointing with the head to the window. The legs were either held by a nurse, who

FIG. 2.

turned his back toward the patient,[1] or by a stretcher (Clover's crutch). If the latter was used, the patient's knees rested on the cross-bar of the chair, which, of course, was well padded. In the hospital we used a similar arrangement. But as there always are many hands at our disposal, this slight inconvenience connected with the posture was less perceptible.

Trendelenburg's new table meets this insufficiency of the method in a simple and excellent way, and offers besides many new and important advantages.

It has been constructed by him, in connection with Mr. F. A. Eschbaum, the surgical instrument maker at Bonn, for the special purpose of putting the patient into the required position with great ease, and to bring him back into the horizontal and erect sitting position with a similar simplicity. This enables us to avoid difficulties which may probably arise during a bad narcosis. It may also prove beneficial in other respects.

The table consists of four parts, which can be easily put together, and just as simply taken apart. They are small enough to be sent by an express-wagon to the patient's home. The four parts[2] are: 1. The pedestal

[1] See picture in A Contribution to the Surgery of the Bladder, by Willy Meyer, New York Medical Journal, February 23, 1889, and von Langenbeck's Archiv, l. c.

[2] The photographs were kindly taken by Dr. F. F. Sondern, of the house-staff of the German Hospital.

(Fig. 1, *a*); 2, the seat, which has the shape of a coachman's seat on a carriage (Fig. 1, *b*); 3, the rest for the back (Fig. 1, *c*), and 4, that for the head (Fig. 1, *a*). Two movable shoulder-holders (Fig. 1, *e*) are attached to the back-rest.

The back-rest and the seat are connected together by hinges. If everything is in place the table is brought into Trendelenburg's posture by pressing down the handle at the top of the back-rest (Fig. 1, *f*). The table can be lowered to thirty-one inches from the ground, and raised to forty-six inches, by means of a rack and pinion (Fig. 1, *g*), and also swung around a vertical axis (Fig. 1, *h*). If we operate with the help of light which comes from the side, we can always get a full daylight view of the small pelvis and its contents, without moving the whole table. There is a trap-door in the seat of the chair (Fig. 2). If we open it, the whole perineum —urethra (bladder), rectum, or vagina—becomes accessible and can be fully explored, while the patient remains entirely undisturbed in the recumbent position. This proves to be of great advantage in many cases; for instance, if we wish to ascertain the fundus of the bladder with a catheter, which has to be introduced into the bladder during hysterectomy, performed with the help of laparotomy, in closing a vesico-vaginal fistula with the help of epicystotomy,[1] etc.

The patient is put on the table as on an ordinary office chair (Fig. 3). The feet are tied by straps (Fig. 3), and the shoulders caught by the holders mentioned above.

FIG. 3.

Now we can fasten the table with the patient on it "in any height and in any angle of inclination to the horizon, as well as to the meridian, just as we move an astronomical telescope on its foot." If we want to do external urethrotomy for permanent drainage of the bladder, after epicystotomy has been performed in Trendelenburg's posture, and the bladder closed by sutures, the table offers great advantages. We only need to swing the table around in an arc of one hundred and eighty degrees, take the seat out of its hinges, spread the legs with the help of a stretcher, and all is at once ready for the operation on the perineum (Fig. 4). Of course this position holds also good for any other operation on the perineum, vagina, rectum, etc.

I proposed to Mr. Eschbaum to make a number of substitute seats, which are also here before you. If a simple plane be substituted for the curved seat, the table can be well used in the office for ordinary examinations and operations. If we use a narrow seat with divergent

FIG. 4.

foot-holders, which keep the thighs wide apart, urethroscopy can be comfortably performed, and all such operations on skull and face in which the surgeon prefers to let his patient sit up. The operator will have ample room to stand right in front of the patient, between the thighs.

There is no doubt that Trendelenburg's posture has been greatly improved by his new table, and will be still more generally adopted by the use of the same. The table deserves to be found in the operating-room of every public and private hospital.

[1] Von Langenbeck's Archiv, Bd. xxxi., p. 522; and v. Volkmann's klinische Vortraege, No. 355, p. 10.

A FRACTURE OF THE RIM OF THE ACETABULUM;

COMPLICATING A BACKWARD DISLOCATION OF THE HIP-JOINT — TREATED BY EXCISION — REPORT OF THE CASE.[1]

BY J. S. PYLE, M.D.,

CANTON, O.

IN November, 1889, the writer was called to see a case of backward dislocation of the hip joint, complicated by a fracture of the entire posterior portion of the rim of the acetabulum. The rarity of the complication, and the measures adopted for treatment make the case interesting, and one worthy of being placed on record. I am unable at present to find a similar case reported; yet I am of the opinion that where proper means of maintaining reduction have been used, a loss of the rim of the acetabulum is the most frequent, if not the only cause of incurable dislocations of the hip-joint. The reason that surgeons have been silent on this subject, is because they have never adopted radical measures of treatment, and

[1] Read before the Canton Surgical and Pathological Society, Canton, O., August 4, 1890.

consequently the cases were viewed, in real ignorance of their true condition, as instances of imperfect repair of the capsular ligament. The cause of this indifference and ignorance arose no doubt from a lack of faith in what seemed a severe measure with but little possible chance of improvement. I wish to show here that this feminine timidity was unscientific, and above all a hindrance to surgical interference and the progress in the study of the conditions produced in accidental dislocations of the hip-joint. Some rare points will be established in the report of my case; and as a prelude to setting them forth, let me bring a few anatomical facts to bear upon what is to follow. The hip-joint is formed by a reception of the globular head of the femur into a recess in the os innominatum, deepened by circular layers of bone and fibro-cartilage until the outside rings almost cover the entire head. The position of this recess, and the direction of the head and neck of the femur, have everything to do with fixing the amount of disability, while in maintaining the articulation, the continuity of the capsular ligament and the rim of the acetabulum are absolutely essential. In regard to the direction of the head and neck of the femur, this varies from the time the shape of that bone is laid down in hyaline cartilage until far in advanced life. At first the head and neck are almost in line with the shaft; but as age advances, they incline, until later on in life, when they form almost a right angle. Every medical man who has had much to do with hip-joint dislocations has observed the different degrees of disability from infancy to old age; and the explanation of this lies in the variation of inclination, as above stated. In a backward dislocation, the way in which the disability is increased may be made still plainer by a few remarks further on the subject. When the head of the femur is thrust backward and out of the acetabulum, the limb rotates inward, describing an arc of a circle, the size of which depends upon the amount of inclination of the head and neck from the direction of the shaft—the immobility of the limb of course being determined by the degree of inclination, and also by the length of that segment of bone. The muscles are not to be disregarded; and here will be a good place to show how they are affected by a change in the position of the femur, and how they operate upon that bone under the circumstances named. We stated that the greater the inclination of the head and neck toward a right angle, the greater would be the arc the femur would describe; and, as a necessary result, the greater would be the disability. Now let us explain; for it is right here where it will require a judicious exercise of the judgment in order to determine how much benefit can be derived from surgical interference in any case of permanent dislocation of the hip-joint. The articulation of the femur with the os innominatum cannot be destroyed without an alteration in the position of the limb. If this be a backward dislocation, the thigh is rotated inward by the internal rotators; and owing to the impossibility of outward rotation on account of the head and neck of the femur lying upon the side of the ilium, the external rotators are put upon the stretch, and the thigh is drawn upward and inward. Now if the arc the femur describes be increased, it is plain that the muscles are made tighter; and adduction and flexion of the thigh upon the abdomen are correspondingly increased thereby, as previously stated, fixing the amount of disability.

Backward dislocations are the only ones attended with a serious impairment of the use of the limb, and for this reason our remarks will be in great part confined to this form.

The anatomy of the acetabulum and capsular ligament are of no less importance to our present study than what has been considered; and we will next give a passing notice to these parts in connection with the injury they sustain in dislocations. The construction of the acetabulum—as described elsewhere in this article—shows that the rings of bone that deepen the cavity were designed, when the articulating surfaces were in contact, to act as a point of purchase for the head of the femur in sustaining the weight of the body in all positions. Destroy this point of purchase, and the result is sure to be dislocation in one of four directions, yet it is no doubt most common that dislocations take place without a loss of the rim of the acetabulum, the capsular ligament being simply torn sufficiently to allow the escape of the head; but I am convinced from the permanent dislocations I have seen that a fracture of the rim of the acetabulum of sufficient magnitude to destroy the function of the joint is not so infrequent as one might suppose. Nothing about the hip joint can be of more interest than the attachment of the capsular ligament. Surrounding as it does the joint, and attached to the neck of the femur and circumference of the rim of the acetabulum, a dislocation cannot take place without tearing the capsule more or less. The nature of this tear is of the most importance to us. A form no doubt more common is a simple separation of the fibres of the ligament; but as verified in my case, another condition of far greater interest to the surgeon than the one just referred to is not, we believe, at all infrequent. This is a separation of a segment of the ligament from the rim of the acetabulum, or, as I believe, always due to a fracture through that part, and the ligament torn away corresponds in extent to the amount of rim loosened up. In these cases the capsule is simply pushed in advance of the head of the femur, and when the dislocation is reduced it is doubtful whether the capsule ever returns to its proper place; and hence the impossibility of complete repair taking place. In the case I base my knowledge on, the comminuted rim with the attached ligament lay at the end of the head of the femur, making it out of the question to restore the fragments and capsule by reducing the dislocation. So I am confident that it may be received as a settled fact that dislocations attended with a torn capsule—as detailed above—cannot completely recover; and if it be a backward dislocation after middle life, excision of the head and neck of the femur will afford the only relief. In regard to operative interference, the degree of disability should be our guide.

The operation of excision promises a useful limb, free from pain, and one, in the exercise of the various movements, not far removed from the normal. I would especially commend it after middle life. My case referred to was a male, fifty-five years of age, and a coal miner by occupation. His injuries were received while at work in a mine by a falling piece of slate striking the unfortunate man upon the back part of the pelvis while in the knee-chest position, thus forcing the head of the femur backward and out of the cotyloid cavity, carrying in advance of it the whole of the posterior portion of the rim of the acetabulum and the corresponding attached capsular ligament. The rim was badly comminuted, and the separation from the innominate bone took place near the bottom of the cotyloid cavity, leaving no purchase whatever for the head of the femur. I saw the patient six weeks after the injury was received; and upon examination recognized the possible condition, giving as my advice directions that an opening be made into the joint, and if found impossible to bring about repair, excise the head and neck of the femur for the purpose of restoring the position and partial usefulness of the limb. This I did two weeks after my first examination. Finding the extent of the fracture beyond my expectations, and seeing that it was out of the question to do anything other than excise, I completed the operation, and the result was in every way gratifying. My patient before the operation used two crutches; but now goes about with a cane, with as much dexterity as if he had a natural hip-joint.

This result shows us what may be done for patients afflicted in this way. And now in conclusion let me express due appreciation for a letter of encouragement received from Dr. Lewis A. Sayre while I was pressing upon the patient the importance of the operation.

THE EFFECT OF THE PRODUCTS OF HIGH EXPLOSIVES, DYNAMITE AND NITRO-GLYCERINE, ON THE HUMAN SYSTEM.

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In the construction of any work of magnitude, in the present day, involving the removal of rock, dynamite or nitro-glycerine is used in considerable quantities.

When these are used in open cut-work, as on railroads, after the explosion the gases immediately distribute themselves in the atmospheric air, and no effect has been noticed on the workmen employed.

But where it is used in tunnels, as in mining or other partially closed cavities, and the gases or residue are slow to escape from the mouths of the tunnel, or up an air-shaft, serious deleterious effects are produced.

Dynamite is composed of nitro-glycerine with some absorbent. There are, for purposes of study, practically two classes of dynamite, which might be termed inorganic and organic, according to the absorbent used. As a type of one class is that made with infusorial earth—Kieselgour—which is composed of siliceous diatoms, and of the other, that made with ground wood-pulp, or sawdust. Others, still, are made from a combination of both kinds. The results of the explosion, however, are practically the same in either case, except with the organic absorbent we get with the products an additional amount of carbon.

An experience of over five years where such explosives have been in use, and as yet not having read any article on this subject, have led me to believe that one might be of interest to some of the profession.

During 1885 to 1887, while surgeon to the New Croton Aqueduct, fully thirteen hundred cases of asphyxia, or partial asphyxia, and poisoning, from the products produced by the explosion of dynamite, came under my care; and more recently a few other cases which I have had a better opportunity to study.

Two classes of cases were observed: First, where a considerable quantity of the products was inhaled at one time—acute cases; secondly, where the men constantly breathed a small amount, or chronic cases. The acute cases varied according to the amount inhaled.

In some cases where the amount of dynamite used is not large, or where after the explosion a considerable quantity of fresh air has been mixed with the products of combustion, or where the workman has, after a few breaths, become giddy, and is pulled away by others and sent to the surface, the effects produced are a trembling sensation, flushing of the face, succeeded sometimes by pallor, frequently nausea, sometimes vomiting, with throbbing through the temples and fulness in the head, as if it would burst, followed by an intense headache characteristic of poisoning by nitrites—similar to that of nitrite of amyl—only not so violent, but more persistent, frequently lasting forty-eight hours. The heart's action is increased, and the pulse full and round, though somewhat compressible.

Case I.—J. C——, occupation, miner, while returning to work after a blast, became dizzy, and crawled on hands and knees back to the bucket; felt as if drunk. About twenty minutes afterward was nauseated and vomited slightly. Had a feeling as if his head was swelled. After vomiting the headache increased. The pulse at this time was full and bounding, and 108. Ten hours afterward the headache was more pronounced, and the pulse 88 and more compressible.

Where, however, a man goes into the tunnel immediately after the explosion, and is brought in contact with a large percentage of the poisonous materials, the effects are giddiness immediately followed by unconsciousness, and the patient presents the usual appearance of asphyxia. Sometimes in these cases the pulse is full and bounding, though very compressible; but in most of the cases it is alarmingly weak. Generally there is great pallor, though this may be partially due to working underground. The comatose condition soon passes away, and is succeeded by drowsiness, languor, cold perspiration, intermittent pulse, and generally nausea and vomiting. Sometimes the breathing is spasmodic, and frequently there is hiccough, and after a time a severe headache.

Nearly all of these cases, however, no matter how serious they seem at the time, recover; though a substitute on the Aqueduct, during my absence, was on one occasion so unfortunate as to lose two cases. I found upon inquiry that death in these cases occurred several hours after the patients were removed from the tunnel, and was due to paralysis of respiration.

In the chronic cases there are four prominent symptoms: Headache, cough, indigestion, and disturbances of the nervous system.

The cough is similar in character to the cough of pertussis or of malaria, and at first I was under the impression that it was purely malarial, as cases of intermittent fever were frequent. But although some of the cases may have been complicated with malaria, there were many others that were not, in which the cough was persistent.

In nearly all of the cases there was a continuing headache.

Next in prominence to these symptoms come disturbances of the nervous system, as trembling, irritability, neuralgia, etc. In fact, nearly if not all of the symptoms were attributable to this cause. Even the cough, in all probability, was due to the effect produced on the pneumogastric nerve.

One of the superintendents became so nervous and irritable, largely from this cause, that it was with difficulty that he could get along with the men. All of the men affected seemed extremely nervous. And with this was associated indigestion, probably due to the same cause. Of course, with this latter symptom, the character of the food and the manner in which it was eaten must be taken into consideration. But as soon as a man with these chronic symptoms was taken from the tunnel and placed at work on top, he steadily improved, and would finally recover entirely.

It was also noticeable that those who had previously suffered from dyspepsia or neuralgia were made much worse by the dynamite smoke.

One inspector on the Aqueduct was forced to resign by reason of the constant return of an old "tic douloureux," due to this cause. What were the symptoms recognized due to?

The formula for nitro-glycerine is $C_3H_5(NO_3)3$. And the products from the combustion of this are written: $4\ (C_3H_5N_3O_9) = 10\ (H_2O) + 12\ (CO_2) + 6\ (N_2O_2)$.

In other words, the products are water, carbonic acid gas, and nitrogen dioxide; none of which would produce the symptoms above described except asphyxia, but not the effect on the heart, nor the other symptoms witnessed. What, then, was the cause?

A comparison of the above symptoms in the acute cases with the phenomena produced by various-sized doses of nitro-glycerine shows them to be identical. This similarity of symptoms from inhalation of the products of the explosion of dynamite, and of those produced by the nitro-glycerine itself, is so well marked that even miners themselves have noticed it. Frequently, when dynamite is frozen a miner will place a cartridge in his boot to thaw it out; and the absorption of nitro-glycerine through the skin will produce precisely the same symptoms as in the mild acute cases of the inhalation of the products before described.

Again, I know an instance of where a miner used his knife to cut a cartridge, and afterward cut and ate an apple with the same knife. In this case, according to his statement, the symptoms were similar to being "knocked out by powder smoke," only more severe. The headache persisted three weeks. And on another occasion this same miner cut up some tobacco to smoke with a knife that he had used for dynamite, and was again similarly affected.

Here the heat from the tobacco inhaled smoke volatilized the fine particles of nitro-glycerine on the tobacco below, and poisoning was produced by absorption through the lung tissue.

No other conclusion can well be reached than the fact that there is mixed with the gases produced unexploded particles of nitro-glycerine in a volatile state; and these particles inhaled by the miners produced the effect described.

There is no doubt but that the explosion of a large quantity of dynamite would produce sufficient gases of CO_2 and N_2O_2 to produce asphyxia. Here we get the cyanosis and other symptoms of simple asphyxia, and we may get nausea and vomiting; but not the same disturbance of the sympathetic system, nor the continued chronic spasms of the vagus, nor the persistent headache pathognomonic of nitro-glycerine poisoning. This fact can be conclusively proved by waving in the fumes, immediately after an explosion, a cold sheet of glass, and thus collecting upon it by condensation a small percentage of the nitro-glycerine itself.

As regards treatment—as a preventative the use of such apparatus or machinery, whether by blowing or by sucking, that will rapidly clear the tunnel or cavity from noxious gases or fumes is to be recommended. Where steam drills that are worked with an air compressor are used, they contribute largely to this end.

Also, it has been found by makers of dynamite that the use of a large cap will explode a greater percentage of the glonoine than a small one, and this, to a certain extent, obviates the trouble. In certain cases, however, for some reason, a cartridge does not explode, but burns like a candle, with considerable spluttering. In such an instance the amount of nitro-glycerine volatilized is much greater than if exploded, and consequently the effects far more deleterious. I have witnessed a whole "shift" "knocked out" from this cause.

Of course, such measures as are generally used in cases of asphyxia are of service. But in addition to these, the use of cold to the head, and of atropine, ergotine, or other vaso-motor stimulants, administered subcutaneously, are of necessity indicated and exceedingly efficacious. There is little doubt that the effects of nitro glycerine are produced from its decomposition and the formation of a nitrite in the body. "Treatment with ammonia restores normal color and normal functional power to nitrite-poisoned blood."

Acting on this principle, and from its stimulant properties, I have uniformly treated my cases with inhalation of ammonia, and also given the carbonate and aromatic spirits of ammonia internally; and up to the present time have not lost a case.

It seems to me it would be well for those in charge of such works to recommend to the workmen to carry with them small vials of this remedy for use in similar cases.

In none of the cases did I notice any changes in the blood—that is, darkening—such as are mentioned in nitro-glycerine poisoning, but this may have been due to lack of proper observation on my part. In numerous cases of pneumonia the sputum was darker than usual, but this I attributed to the dust and lamp-smoke inhaled.

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Harmony and Discord.—A local item culled from the *Medical Standard* runs as follows: Drs. S. J. Wimmer and C. H. May, of New York City, have organized a physicians' musical club.—Drs. Goldenkrantz and Fishman are suing each other for slander.

THE VALUE OF FUCHSINE IN THE TREATMENT OF CHRONIC ULCERS.

By JULIUS ROSENBERG, M.D.,

HOUSE PHYSICIAN, ALMSHOUSE, BLACKWELL'S ISLAND, N. Y.

I HAVE, during the last three weeks, made some experiments with fuchsine, which have been of sufficient success to warrant their being brought to the notice of the profession. It occurred to me at that time that, owing to its great staining and diffusive properties, fuchsine might prevent the growth of pyogenic bacilli, and I then selected several cases of chronic ulcers to be treated with fuchsine. These ulcers were, without exception, in a very unhealthy condition; some were painful, all had much discharge and were bad-smelling. The solutions I employed were:

I.

℞. Fuchsine..... gr. xij.
Alcohol..... O.j.
M.

II.

℞. Fuchsine..... gr. xij.
Alcohol..... ℥j.
Aquæ..... ℥iv.
M.

III.

℞. Fuchsine..... gr. xij.
Alcohol,
Aquæ.....aa ℥viij.
M.

Of these solutions No. III. has been the most useful. The mode of application is as follows: The wound, after being washed with warm water, is well saturated with the solution, and a piece of lint soaked in the same solution is placed upon the raw surface, ordinary cotton-wool is wrapped around the limb, and bandages applied. This dressing is to be changed every two to four days. The results are very striking; discharge and odor cease immediately; pain, if it has been present, disappears, and healthy granulations soon spring up. Cases which did not respond to other treatment rapidly improved and were cured with fuchsine. I did not observe any bad effects in about forty cases thus treated.

The disadvantages are that it stains so freely, but if a little care is used there is no need to soil the hands or linen. I have found a small glass syringe very useful in applying it, and cotton-wool, which has not been deprived of its oil, will prevent it from penetrating the dressing.

The advantages are: 1. That it is a very inexpensive drug and well adapted for hospital and dispensary practice. 2. It has great analgesic powers, it having arrested pain in every instance. 3. If properly applied it will arrest suppuration and odor absolutely. 4. It produces improvement and cure in most every case.

I will, finally, express my sincere thanks to Drs. E. D. Fisher and C. E. Bruce for their kind encouragement and advice, and report a few cases for illustration:

CASE I.—A. W——, ulcer of right leg, about three inches in diameter, and of twelve years' standing. When first observed was discharging and ill-smelling. Has been treated with fuchsine for two weeks; discharge has ceased, healthy granulations are present and the ulcer is much diminished in size.

CASE II.—James M——, ulcer of left leg, two inches in diameter, of eighteen months' duration, very foul smelling; has been under treatment for three weeks, and is cured.

CASE III.—John M——, ulcer of left leg, two inches in diameter, existed for nine years and presented no intentions of healing; under fuchsine treatment for three weeks, and to-day only a small granulating wound remains.

CASE IV.—Daniel S— . When brought to the hospital had a number (about ten) of small ulcers on the right leg; duration, four months. Patient had been drinking hard and was in poor physical condition; ulcers have been dressed with fuchsine for three weeks, and patient has been discharged cured.

CASE V.—William D——, has a very large ulcer of left leg, existed ten years, encircles the leg from ankle to middle of calf; has been under treatment for two years without much improvement; ulcer healed rapidly under fuchsine.

RECENT MEDICO-LEGAL CASES.

BY HENRY A. RILEY, ESQ.,

[NEW YORK.

THE President of the American Bar Association gives each year a summary of legislation during the previous twelve months in Congress and the various State legislatures, and this summary contains much of general interest. He made, at the last meeting, the following reference to the legislation designed to preserve the natural food-supply: "The extent and value of the natural food-supply in the form of fish and game, and the importance of preventing its wasteful diminution, perhaps also the growing appreciation of outdoor sports, are illustrated by numerous statutes, in almost all the States, for the protection and preservation of the denizens of the sea, the lake, the stream, and the forest by the establishment of close seasons, by penalties imposed upon the capture of fish by nets, seines, and explosives, and upon the wanton destruction of wild game, the appointment of fish and game commissioners and wardens, by appropriations made for stocking exhausted waters with trout, salmon, shad, and other food-fishes, and by regulating the catch of oysters, clams, and lobsters on the seacoast.

"Stringent provisions are also made in North Dakota and Wyoming for the protection of cattle, horses, and sheep against contagious and infectious diseases, the former appointing a State veterinary surgeon, the latter a board of live stock commissioners, with extensive powers of inspection, quarantine, and still more heroic remedies, in addition to detailed strict requirements concerning the branding and herding of the vast herds of cattle which have replaced the millions of buffalo wantonly slaughtered and now practically extinct. A statute in Wyoming, making it a misdemeanor to pursue, hunt, or kill any bison or buffalo for ten years from March 15, 1890, reads like an epitaph. These measures for the protection of useful animals are supplemented in several States by war waged against noxious ones. A contract between older and newer civilizations is suggested by the bounties which Massachusetts, Ohio, and Michigan offer for the destruction of English sparrows, and the appropriation by Massachusetts of $50,000 for a special commission charged with the extermination of the *Ocneria dispar*, vulgarly called the gypsy moth, as compared with the bounties offered by North Dakota for wolf scalps, with the ears attached, and by Wyoming for the destruction of wolves, bears, and mountain lions, the latter requiring from the claimant not only *prima facie* proof by affidavit, but the entire skin of the animal with all the paws attached, probably as a guaranty of entire good faith." The president made no mention of commissioners whose labors are likely to result in legislation, but the work of the Adirondack commission in this State may well be mentioned here, as there is hardly any non-political measure which is of such universal interest as the endeavor to protect the natural beauties of the North Woods, as well as water-supply which finds its sources in that section. The commission has been holding frequent meetings during the past few months, and suggestions and advice have been invited from all quarters. The lumbering interests, which seem antagonistic to the preservation of the forests in their present condition, have been represented and have given their views. The aristocratic owners of large private parks, who desire to preserve extensive tracts for the exclusive use of themselves and friends, were on hand in good numbers, as well as those whose desire it was to keep unharmed for the use of the public the unrivalled stretches of virgin forest now threatened with destruction.

It is noticeable that no person or interest spoke slightingly of the desirability of preserving the forests, the lumbermen even claiming that their operations really did no harm but added to the beauty of the landscape, by thinning out the too luxuriant growths and permitting the trees which were left to expand with more freedom.

It is certain that the commission will make an interesting report to the Legislature this winter, and will probably present a bill for consideration and action. Some comprehensive measures ought to be adopted at once, or else it is likely that harm may be done which many years of watchful care will not be able to remedy.

The Supreme Court of California has recently decided that the Legislature may probably enact a law requiring that the scholars, as a body, shall be subjected to vaccination. The opinion of the court is partly as follows: "It is suggested that the subject of the Vaccination Act is not within the scope of a police regulation. The Legislature has power to enact such laws as it may deem necessary, not repugnant to the Constitution, to secure and maintain the health and prosperity of the State, by subjecting both persons and property to such reasonable restraints and burdens as will effectuate such objects. The act referred to is designed to prevent the dissemination of what, notwithstanding all that medical science has done to reduce its severity, still remains a highly contagious and much dreaded disease.

"While vaccination may not be the best and safest preventive possible, experience and observation, the test of the value of such discoveries, dating from the year 1796, when Jenner disclosed it to the world, has proved it to be the best method known to medical science to lessen the liability to infection with the disease. This being so, it seems highly proper that the spread of small-pox through the public schools should be prevented or lessened by vaccination, thus affording protection both to the scholars and the community. Vaccination, then, being the most effective method known of preventing the spread of the disease referred to, it was for the Legislature to determine whether the scholars of the public schools should be subjected to it, and we think it was justified in deeming it a necessary and salutary burden to impose on that general class."

In a recent case in Georgia, where damages for a miscarriage were demanded, and where a new trial was granted, the appellate court held as follows: "The tenth ground complains that the court charged that any pain and suffering, or sorrow, resulting from the miscarriage, the law says, is an element of damage. We would suggest that the word 'sorrow' be omitted from the charge of the court on the next trial. It is most too remote to be considered an element of damage, unless it is that sorrow which accompanies the actual injury, and is suffered at the time of the miscarriage.

"The loss of a child by a miscarriage would affect women so differently that it would be hard for men, sitting as jurors, to estimate it as an element of damage; and we think it would be better to omit in the future any instruction to the jury upon the question of sorrow as an element of damage.

"Pain and suffering give a wide latitude to juries, and there are very few complaints made of the smallness of the amounts found by juries upon these two elements of damage."

At the moment when this paragraph is written the fate of the negro murderer, Wood, sentenced to be executed by electricity, is somewhat in doubt, as Judge Brown, of the United States Circuit Court, has granted an appeal from the judgment, while not in set terms giving a stay of the execution. It is not believed, however, that Warden Brush, of Sing Sing Prison, will hesitate to postpone the execution, even if Judge Brown does not come to his aid by explaining the meaning of his order.

The most serious view of the matter for the public, however, arises from the fact that the act of Judge Brown makes the third interference within a year, by Federal

courts, in murder cases decided by the New York State courts. If these appeals to the National courts are to be permitted on purely technical points, it will be difficult to secure the actual execution of a murderer until years have passed after the commission of the crime, and the recollections of it has largely passed away. The quick following of punishment upon crime in English murder cases is certainly to be preferred to the long delays permitted under our procedure.

Clinical Department.

POISONING BY SULPHONAL.

By F. H. DILLINGHAM, M.D.,

NEW YORK.

THERE has been so much said about the safety of sulphonal, and its having no effect on the heart, that I have thought it best to report a case where an elderly lady took ninety grains by mistake and alarming symptoms followed.

I had ordered for insomnia some powders, each containing thirty grains of sulphonal, with directions to take *one* in the evening.

I was called in great haste about 3 A.M., and found her in a semi-comatose condition, rapidly passing into a state of stupor, with stertorous breathing. Her radial pulse was almost imperceptible, and extremities cold.

I was told that she got out of bed to urinate a short time before, and was unable to get back, and fainted.

As soon as I had prescribed for the alarming symptoms I made an investigation, and found that she had taken *three* powders (ninety grains) at 9 P.M.

Her breathing and stupor soon improved, and her pulse became a little slower and stronger. Inco-ordination of all the muscles was extremely well marked. Her face was drawn slightly to the right side, and there was ptosis of the right eyelid. Pupils were normal.

She would doze for a few minutes and then open her eyes, but not recognize anyone.

Dr. Charles W. Packard kindly saw the case with me at 6 A.M., when her general condition had slightly improved. As the doctor came into the room, she tried to ask who he was; before this, she had not seemed to appreciate the fact that anything had happened.

Her articulation was very poor and feeble, and it was with the greatest difficulty that I could understand what she wished to say. Respirations were 24, pulse 130, and temperature 98° F. Her mouth was parched and tongue dry, and when she put it out, it deviated to the right. She had a constant desire to urinate, but passed only about a teaspoonful at a time. The urine was normal.

When she attempted to raise her hands, she found it impossible to touch the place she desired.

At noon there was a slight improvement in her condition, but the inco-ordination remained about the same. She had not slept, and it was difficult to obtain an answer to any question; if you did, it was apt to be incoherent.

As her bladder was beginning to be distended, I had her urine drawn by catheter. She complained that she felt so tired, and wished that she could get a little sleep.

The next morning she was much weaker, in spite of the stimulants and milk she had taken, and her mind was not clear. Respirations were 22, pulse 130 and feeble, temperature 98½° F. Her face was not drawn quite so much to the right, and the inco-ordination and ptosis very slightly improved. Her bowels were constipated, but there was considerable tenesmus, which was finally relieved by enemata. She was not able to expel the fæces in the lower rectum, and there was also paralysis of the sphincter muscle, as she could not retain the enema. The paralysis of the bladder still continued.

In the afternoon her mind became clear, but it was with difficulty that she could articulate; she said it tired her so much. The inco-ordination was still well marked, and it was impossible for her to use her hands for anything. She tried to write her name, but failed.

After this her condition gradually improved, and when she was able to raise her head, complained of dizziness.

It was ten days before the ptosis, paralysis of the face, and inco-ordination of the muscles entirely disappeared. The paralysis of the bladder and bowels continued for two weeks, and then they began to gradually resume their normal functions.

This case especially differs from the others reported, in the depressing effects on the heart and the absence of sleep, also in the severity and persistence of the symptoms. It does not seem as though a drug which had proved fatal in dogs, and may cause such alarming symptoms, can be absolutely safe, even in smaller doses.

344 LEXINGTON AVENUE.

RELATION OF SLEEP TO TEMPERATURE.

By A. D. BARR, M.D.,

CALAMINE, ARK.

IN an article entitled "The Physiology of Sleep," published in the Kansas City *Medical Record*, March, 1890, the writer called attention to a falling of the temperature before sleep begins, or coincident with it. The writer's observations have now extended over a period of a year and a half, and confirm all claims made in the paper above referred to. Previous observers have held that the body temperature rises rapidly from 6 A.M. to 10 or 11 A.M., and then more slowly to 6 P.M., when it begins to decline, reaching the minimum between 4 A.M. and 6 A.M. The writer's observations, however, tend to show that the temperature rises steadily from 6 A.M. till about noon, when it reaches its maximum. Here it remains, under ordinary circumstances, until 5 or 6 P.M., when it begins to decline, and continues to do so until 3 or 4 A.M., when it reaches its minimum.

The relation of sleep to temperature is shown by the subnormal temperature, 97° F., after the loss of a night's sleep; which, however, will rise to the normal on mental or physical exercise, to fall immediately when quiet is restored.

Progress of Medical Science.

How the Pathogenic Bacteria do their Harm.—Brieger and Fränkel have studied this question. Of course, the first condition for successful inquiry was to employ pure cultivations of the organism experimented upon. Basic bodies, denominated "toxine," had already been found in several pathogenic micro-organisms, such as the bacillus of typhoid, tetanus, cholera, etc. Yet it was found that this toxine did not invariably call forth all the phenomena of the infectious diseases due to the bacilli, from pure cultivations of which it had been obtained; the supposition, therefore, seemed fair that, besides the already-found chemical bodies, there were other substances which played a momentous part (*The Edinburgh Medical Journal*). Brieger and Fränkel considered that Löffler's bacillus of diphtheria was well adapted for their purpose, because it is now beyond doubt that this organism is the genuine cause of diphtheria. Löffler had already called attention to the fact that this bacillus, when inoculated on animals—guinea-pigs and pigeons—colonized only the immediate neighborhood of the infected spot, yet grave alterations of texture and organs and speedy death of the animals experimented on followed. This connection of events could only be explained in this way—that the bacilli produced by their local multiplication a substance of exceedingly poisonous properties, which spread over the whole organism, and, independently of the bacteria, did its deadly work. Brieger and Fränkel consider that they have proved that Löffler's diphtheria bacillus

engenders in its pure cultivation a poisonous, soluble substance separable from the bacteria, and which, when injected into susceptible animals, calls forth the same phenomena as the injection of the living micro-organism. The authors also have settled that this substance is destroyed by a heat of 140° F.; that it can stand a heat of 122° F., even in presence of excess of muriatic acid. This last fact of itself speaks against the supposition that the poison of the diphtheria bacillus is a ferment or an enzym. Further examination of this substance showed it was not a ptomaïne or toxine; no crystallizable substance, save kreatinin and cholin, was obtained. Shortly summing up their investigations, the authors seem to have discovered in the diphtheria bacillus a substance belonging to the albumin series of bodies, which has poisonous properties, and causes the phenomena of diphtheria when injected. They propose to give it the name of "toxalbumine." In the living body they consider that the bacteria build up and separate their toxalbumine from the albumin of the tissues. Brieger and Fränkel also examined typhoid, tetanus, and cholera bacteria, and staphylococcus aureus and watery extracts of the internal organs of animals killed by anthrax, in the same way as they had examined the diphtheria bacillus, and found in all of them bodies which, according to their chemical behavior, were albuminoids, were poisonous, and could therefore be aptly called toxalbumines. The road from normal constituents of the body to substances of the most dangerous kind seems a very short one, and our organism itself may be looked upon as the proximate cause of morbid conditions let loose by the life-activity of bacteria.

Administration of Iodine and Phosphates to Infants.—Dr. Jolly considers that phosphates of potash, soda, and iron are absorbed directly, but that the phosphate of lime only enters the system in combination with albumin in small quantities. The greater portion of the phosphate of lime is assimilated by the intercellular formations. Cows fed upon forage and grain give milk containing a large proportion of phosphates. A cow which yields fifteen litres of milk will drink about fifty litres of water, and, from this water, obtains the lime necessary for the assimilation or transformation of all alkaline phosphates of its food. Instead of giving phosphate of lime to infants, he feeds them on aliments rich in alkaline phosphates—*e.g.*, bran bread, and administers alkaline mineral waters, which favor the intracellular formation of phosphates of lime. Chloride of sodium transforms the phosphate of potassium that is contained in vegetables into phosphate of soda.—*Journal de Médecine de Paris.*

The Prophylaxis of Diphtheria.—A *résumé* of this subject is furnished by Professor Löffler, of Greifswalde. The cause of diphtheria is a bacillus, which, contained in the exudation on the affected mucous membranes, is liable to be disseminated in the vicinity of the patient, together with particles of the false membrane. The infectivity of the patient may even persist for some days after all traces of diphtheritic exudation have disappeared. The strictest isolation of cases is necessary; children who have suffered from the disease should be kept from school for at least four weeks. The bacilli have been found to retain their vitality in dry membranes for from four to five months. It is therefore essential that all clothing, bed linen, and utensils likely to have been contaminated should be disinfected, either by boiling or by exposure to steam. The room occupied by the patient should be disinfected by washing the floors with warm sublimate solution (1 in 1,000), and cleansing the walls and furniture with bread.

It is uncertain how long the bacilli may exist in the moist state, but it seems probable that moisture is more favorable to their vitality than dryness. Thus, diphtheria would seem to be favored by the dampness of dwellings, and also by absence of light. These organisms can exist outside the body at a temperature of 68° F., and they develop well in milk. The sale of milk should therefore be carefully supervised. The diseases affecting pigeons, fowls, calves, and pigs, which resemble diphtheria, are not caused by the bacillus of human diphtheria. These diseases in the lower animals are not, therefore, to be feared as sources of the human affection. Professor Löffler thinks that the etiological identity shown by Klein to exist between diphtheria in cats and in man requires confirmation. Although lesions of mucous membranes favor the retention of the virus, yet in disposed subjects the disease may arise apart from such lesions. It is advised that when diphtheria is prevalent, a systematic use of disinfectant gargles and washes (*e.g.*, sublimate solution, 1 in 10,000) should be enforced on all children. The meteorological conditions which favor the spread of the disease are still unknown.—*Berliner Klinische Wochenschrift.*

The Subcutaneous Use of Mercury.—According to the *Hospital Gazette*, a new mercurial for hypodermic use is the so-called glutine-peptone sublimate. It seems that these compounds of mercury with complex organic bodies are coming into favor for subcutaneous use. Glutine-peptone sublimate is prepared as follows: Gelatine is acted upon by dilute hydrochloric acid and a substance called hydrochlorate of glutine-peptone is produced, containing about twelve per cent. of hydrochloric acid. This substance has the properties, among others, of being soluble in alcohol and of forming compounds ("double salts") with mercuric chloride. That recommended for hypodermic use contains twenty five per cent. of the mercury salt. It has been used in seventy cases by Dr. Huefler in the clinic of Professor Struempell, of Erlangen. Each of the patients received about twenty injections of two-thirds of a grain, corresponding to one-sixth of a grain of corrosive sublimate, and from the results obtained the author regards the mercurial as prompt and reliable in action. He did not observe any irritation or formation of pus at the points of injection. In *The Lancet* of October 11, 1890, it is stated that Dr. Selenew has made comparative trials of the advantages of several mercurial salts for hypodermic use, under the direction of Professor Stukovenkow. He has recently obtained considerable success by using the succinimide, a salt which was originally recommended for the purpose by Dr. Vollert and was used in Professor Wolff's syphilitic clinic in Strassburg two years ago in doses of about one-sixth of a grain. Dr. Selenew employed larger doses (one-quarter to one-third of a grain) in a solution of the strength of one per cent. The injections, of which nearly a thousand were given altogether, were usually made into the cellular tissue of the back or buttocks. In some cases a daily injection for twenty-four days sufficed to cause all the syphilitic appearances to disappear; in most of the cases the treatment had to be carried on for about a month, and in one case for forty days. Thirty-three patients in all were treated. In six the gums became affected. In only one was the pain at the seat of puncture at all severe; usually there was no pain at all. In one case there was abdominal pain and diarrhœa, which lasted for five days. Out of twenty-four cases of primary syphilis which remained under observation for seven months only three developed secondary symptoms, and one of these was that of a man addicted to drink. Comparing the results in preventing secondary symptoms with those obtained by the injection of other mercurial preparations, the succinimide appears to be about as efficacious as the yellow oxide, and very much more so than the alaninate, the salicylate, or the so-called gray oil. Dr. Selenew looks upon the succinimide as a mild and valuable preparation, which may be very useful in primary and secondary cases of no great severity, especially in women and children, because of its slight tendency to cause local irritation. In severe cases a more active preparation, as the yellow oxide, the perchloride, the salicylate, or the oxybenzoate, should be preferred.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, December 13, 1890.

REPORT OF THE SURGEON-GENERAL OF THE ARMY.

THE annual report of Surgeon-General Moore for the year 1889–90, contains an unusual amount of interesting information regarding the department under his charge.

The sick-rate during the year has been a little higher than ordinarily, viz., 44.12 per 1,000 of strength, as compared with 41.91 in 1888–89. The mortality-rate, however, is lower, being but 6.33 as against 8.15 in 1838, and 9.52 during the decade.

The German army alone among European armies has a lower death-rate than our own, it being 2.95 per 1,000.

The prevalence of syphilis in the United States and other armies is a fact which always calls for serious attention.

Dr. Moore says that the discharge-rate from our army for syphilis is extremely high (3.52 per 1,000), while in Germany it is only 0.03 per 1,000, and in the English and French armies not much higher.

This difference is so marked as to merit a word of explanation. "The high rate of our troops is not due to the greater prevalence of these diseases among them. Venereal diseases take first place among the causes of admission in Great Britain and Italy, while they do not form even one of the five prominent causes among our men. The admission-rate of the British army is 253 per thousand men, equivalent to every fourth man affected, while the rate among our troops is 85, equal to one man in twelve. Nevertheless, we discharged 96 men on account of these diseases from our army of 25,000, the British 70 from their home force of over 100,000, the Italians 2 from their army of over 200,000, and the Germans 12 from their strength of nearly 400,000.

"Several causes combine to make discharge for syphilis more frequent in our army than in the European services. Modes of treatment and their results are not concerned in the explanation. The economic side of the question appears to determine the matter. The armies of Europe are large, representing in many instances the maximum strain which their respective countries are capable of bearing, and they cannot afford to throw out men who may be put to use in an emergency. Our army, on the other hand, is so small that there is no difficulty in securing its complement of physically qualified men."

There are at present 164 medical officers in the service.

An army medical examining board was convened in New York City on October 1, 1889, and April 28, 1890, and remained in session during the respective months. The following is a recapitulation of the work performed by the board during its sessions:

Number of candidates found qualified	9
Number of candidates rejected	17
Number of candidates rejected, physical disability	7
Number of candidates who withdrew after partial examination	3
Total number examined	36

The following table shows the condition of the medical museum:

Total number of specimens in museum, June 30, 1889	27,982
Exchanged or discarded during the year	12
	27,970
Total number received dnring the year	1,315
Total number in museum, June 30, 1890	29,285

There were added to the library during the year 3,935 medical books, transactions, and volumes of journals, 2,286 medical theses, 8,876 medical pamphlets, making a total of 11,162. The total number of volumes in the library is 97,886, while the theses and pamphlets bring up the total to 149,077.

OVER-PRODUCTION OF MEDICAL MEN.

THAT trite, old, much-discussed query, "What becomes of the pins?" might be paraphrased into "What becomes of the doctors?" There has recently been issued the "Annual Report on Medical Education, Medical Colleges, and the Regulation of the Practice of Medicine in the United States and Canada," compiled by that most excellent authority, Dr. John H. Rauch, secretary of the Illinois State Board of Health. The book contains much food for reflection; good solid food, too, which it behooves the trustees of medical colleges and also State legislators to take in and digest. Then they would see and hasten the coming of the better time, near at hand, when medical education will be on a higher plane than now, when there will be no more diploma mills, and when it will require good brains, hard work, and a fitness for the physician's high calling, to get through the most lenient of medical colleges. The first reflection that comes to the reader of the report, however, is one of surprise at the immense number of physicians turned loose on an unsuspecting public every year. For the session of 1888–89, there were 4,337 graduates in medicine in the United States, with almost 300 in Canada. When it is considered that this is a decrease from the number of the preceding session, the query comes, where do they all go to? Then the mind asks how many are fitted for their work, and how many make a success of life, either in a monetary or scientific sense. Opinions will differ. The fact is there is a flood, an avalanche, of young M.D.'s every spring, a veritable over-production—an over-production that is beyond the control of tariff tinkers. That control is vested in just two sets of men, trustees of colleges and State legislators. It is such an easy matter to become a physician—in some colleges a simple payment of fees and an attendance (?) on two courses of lectures of twenty

weeks each—that many impecunious men, with little brains and less conscience, take advantage of the diploma mills and proceed to fleece the American public, which, in many things, apparently likes nothing better than being humbugged. Other men, without this mercenary spirit, perhaps, enter the profession when they are totally unfit by lack of general education to cope with its solemn duties. Nevertheless, they find little difficulty in obtaining diplomas, and still less in finding a State whose authorities will permit their residence and practice. This deplorable state of affairs is recognized by all, and slowly but surely there is a popular sentiment arising that will force colleges and legislatures to make the requirements for practice more stringent, and in so doing, elevate medical education to that high pedestal which it deserves. That this time is coming, as stated above, is plainly indicated in Dr. Rauch's admirable report. It shows that there has been greater progress in the direction of a higher medical education during the college year 1888–89 than for any similar period in the history of the country, and greater than in the preceding half decade. The courses of instruction were increased in many colleges, notably Clark and Johns Hopkins Universities; the number of colleges requiring a graded course increased during the year twenty-five per cent.; an act was passed in New York State requiring a preliminary examination, by the regents of the State University, of all students about to enter on the study of medicine; there was an increase of six per cent. in the number of colleges requiring preliminary examinations; and medical practice acts were passed in Florida, Tennessee, and Oregon. There is no doubt that the popular sentiment favorable to the higher education of the medical student is rapidly growing, and will in time crush all its opponents.

THE MAN AND THE BULL.

THE *Medical Age* discusses at length the subject of doctors' fees and doctors' bills. The editorial tone is sad, and somewhat reproachful withal; especially in reference to the following reminiscence:

"We recall," says the *Age*, "a man of wealth, and who still lives in luxury, no expense being too great where his own gratification is concerned; who squanders money 'like water' in his political projects; who always demands a trifle more than the current value when he condescends to render a service; and who likewise requires the closest and most personal attention on the part of his family physician. He is no way chary in calling upon the latter at all periods, convenient or inconvenient, and needlessly detaining him for hours. Yet this man never liquidates his bill save at intervals marked by years, and when it requires three figures for enumeration of the total, and then, without any consideration of interest, invariably demands a discount of ten per cent. or more. He tendered a consulting physician, from a neighboring city, $30 on one occasion, and on another, $100 to a veterinarian, from a like distance, called to see a *prize bull*. The charges made by his medical attendant are always reasonable, and exactly the same as those to his next door neighbor, who commands less than one-tenth the capital and luxury."

Now, we are not so much disposed to censure the patient in the above case as the modest and humble gentleman who attends him. The rich patient pays as he does because he finds he can do so. Let the doctor double his fees and collect them promptly. People are very apt to believe that things are worth no more than is asked for them. The doctor should render good service and demand good payment; and not worry because a veterinarian gets a bigger fee than he does.

THE CARE OF LEPERS.

THE question of suitable provision for the care of leprous persons is one that the people of the United States will be called upon to consider, and that comparatively soon. It is for the general Government to prevent the incoming of such diseased persons, but upon the authorities of the individual States must fall the burden of preventing the immigration of the unclean ones from neighboring States, and of providing for the care of those already among us, and those who from time to time may fall victims.

Although many problems yet remain to be solved, certain things may be accepted, and these merit our attention. The leper must be separated from the healthy community, and so securely isolated that there will be no possibility of his return to his friends; he must be clothed, and fed, and provided with medical treatment and nursing. For a time he has a right to demand employment, and for all the time that he may live, certain diversion. His social status must also be considered: Shall not a leper be prohibited from marrying a healthy person? Shall he be permitted to marry another leper? How shall the offspring of such unions be provided for? Shall a wife be allowed to accompany her diseased husband, and a daughter her diseased mother, into the leprous community, to care for them so long as they may live, and shall they then be allowed to return to the society of healthy persons? These and many other questions must be solved and provided for by law. If a leper be discovered to-day in this community, what can be legally done with him? How can the community be protected?

Mr. E. H. Plumacher, Consul at Maracaibo, has recently made a report to the State Department at Washington, upon leprosy in Venezuela, and from it we may obtain many valuable hints. An island, four miles from the city of Maracaibo, has been set apart for the isolation of the incurables. A suitable building has been provided for them, and another for the attendants. To those who have sufficient means to build cottages land is given. Water-works have been provided, furnishing not only a sufficient supply for cleanliness of persons and quarters, but also sufficient for irrigation of the land devoted to agriculture. A means of employment is thus provided for those able to work and desiring occupation. The island has been artificially stocked with game, and a reading-room, library, chapel, and occasional musical entertainments are provided. Marriages between diseased and healthy persons are prohibited, but sound wives have been allowed to accompany diseased husbands, and have lived with them through the last stages of this loathsome disease; and daughters have accompanied mothers and cared for them to the end, and have then returned to the world, where they have continued to live healthy mothers of healthy families. For the sake of the moral discipline

of the settlement, and under the belief that such unions would be fruitless, marriages have been permitted between diseased persons. Two children have, however, been born of such unions, and so far neither of these children has shown evidences of the disease; and one of them having reached the age of fourteen years, having lived all that time with his leprous parents, has been pronounced clean and has been allowed to return to the world.

A NEW METHOD OF TREATING ANEURISMS.

Dr. William Macewen, of Glasgow, has recently added another to the long list of procedures intended for the relief of aneurisms. He thinks that former methods, such as galvano-puncture, introduction of wire, catgut, etc., have all been deficient, in that they produced only red thrombi, which can be absorbed or washed away. He aims, therefore, to produce in the aneurisms a white, hard thrombus. This he does by introducing a long, sharp needle and scratching the internal surface of the tumor, thus producing a proliferation of leucocytes. His description of the technique of the operation is as follows:

"The instrument employed is a pin of sufficient length to completely transfix the aneurism and to permit of manipulation within it. Its calibre ought to be as fine as possible, the strength being only sufficient to penetrate the coat of the aneurism and the intervening tissues. This cylindrical pin tapers to a point, like an ordinary sewing-needle, and has on its opposite extremity a somewhat rounded head. As the coats of aneurismal sacs vary in thickness, these pins must be made of various calibres, as those which may pass readily through one aneurismal sac may not pass through others with thicker walls. They ought also to be finely polished, not only to facilitate their introduction, but to help to render them aseptic.

"Before performing the operation the skin over the aneurism ought to be carefully cleansed and rendered aseptic. The aseptic pin ought then to penetrate the sac and pass through its cavity until it comes in contact with the opposite side. It ought to touch and no more Then one of two methods may be employed: either to move the pin over the surface of the inner wall so as to irritate its surface, or to allow the impulse of the blood-current playing on the very thin pin to effect the same object. If the wall penetrated by the pin on introduction be dense, the former method will be preferable, as the force of the blood-current produces such a feeble action on the thin pin as to be insufficient to move it to and fro, while it is firmly grasped by the dense wall. After acting thus for ten minutes at one part, the point of the pin, without being removed from the sac, ought to be shifted to another spot, and so on until the greater portion of the internal surface opposite to the point of entrance has been touched; this ought to be done in a methodical manner. A single insertion of the pin through the aneurismal sac into its interior may be sufficient to enable the point of the instrument to come into contact with the greater part of its internal surface, but in some cases puncture from various sides of the external wall may be necessary, so as to reach portions of the tumor which cannot be attacked from the first puncture. While the pin is in the aneurism it is surrounded by a portion of aseptic gauze, or moistened with an antiseptic solution. When it is withdrawn from the aneurism, the part ought to be covered with moist antiseptic dressing, preferably a watery solution of carbolic acid, which ought to be maintained for several days. The period a pin may remain in an aneurismal sac without doing damage is perhaps dependent on the individual and the state of the aneurism, but it ought never to exceed forty-eight hours. It is questionable whether all the necessary advantages derivable from the irritation of the wall of the aneurism could not be produced within a few hours."

Dr. Macewen says that his method is different from the old acupuncture procedure. He reports four cases of abdominal and thoracic aneurisms, with a cure of three.

FASTING.

In connection with Professor Moleschott, of Rome, Professor Luciani, of Florence, made a careful study of the "Hunger Virtuoso," Signor Succi, during his thirty days fast some two years ago. The results of their work are published in a monograph entitled "Fasting: Studies and Experiments upon Man," printed in Italian and German.

The subject of their experiments is now in this city, and, as we write, is approaching the fortieth day of his fast. He has come to this country on a hunger tour, and having broken the record in this city, will, later, take in Chicago and the Western circuit.

The man, from all accounts, is not an impostor, and this makes his history and performances decidedly interesting. Succi is an Italian, thirty eight years of age, the son of a sailor, and in his early life he followed the sea as a fisherman. He is not an educated, or in any sense a scientific, man. His life has been a wandering one, he having travelled in Africa and visited various Eastern countries. He has, it is said, been twice for a short time in a lunatic asylum; but he asserts that his commitment was due to his announcements that he would and could fast for thirty days. He has no delusions or even any extraordinary psychological theories, though a believer in "spiritism" and psychic force. He is said to have some anomalies of the skull; and his peculiar performances and choice of occupation show that he is an illustration of one of the abortive forms of paranoia.

Signor Succi, when not starved, is a man of strong muscular frame, with little subcutaneous fat, and weighing about one hundred and forty-seven pounds. During his thirty days' fast in Italy he lost 6,161 grammes, or about thirteen pounds. During his first thirty days of fasting here he has lost considerably more. He drank at that time an average of 577.5 grammes of water daily, which is about the amount he takes now.

Luciani states that he had "firm muscles, a good deposit of subcutaneous fat, a very slow tissue-change, and, above all, an extraordinary force of will." The Italian professor seems to think that by voluntary exertion Succi is able to slow down the metabolic processes, just as some peculiarly endowed persons can slow down the heart. It is upon this interesting point that Luciani particularly dwells; and he finds in Signor Succi a proof of the regulating influence of the nervous system over the functions of heat-production, respiration, hepatic action, etc.

There seems to be something new learned, therefore, from the fasting of human beings not discoverable by studies upon animals. Certain it is that no mammal can live as long without food as Succi proposes to do.

The Italian faster, after thirty-three days, has a slow pulse of from 60 to 70, urine of about normal specific gravity and moderate in amount. He drinks water, and daily takes fifteen or twenty drops of an elixir which undoubtedly contains some opium.

THE LYMPH INOCULATIONS IN THIS CITY.

A LIMITED supply of the Koch lymph has at last reached New York, and, as will be seen by our accounts in another column, no time has been lost in making inoculations. Very properly hospital patients only have been selected as subjects of the experiments. The Hospital for the Ruptured and Crippled was the first to use the lymph, and following it in turn were the St. Luke's and Mount Sinai Hospitals. All the cases were chosen as proper ones for the tests and were examined with great care accordingly. There need be no fear that the Koch method of treating tuberculous affections will not have a fair and impartial trial under the care of competent observers, and that perfectly impartial reports will be made.

While the profession of this city and elsewhere is not prepared to express any opinions upon the results, the investigations will be carried out with a fairness which will commend themselves to every earnest seeker after truth. It is safe to say that no topic connected with the prevention and cure of disease has so thoroughly engaged the interest of medical men, since the discovery of Jenner. It should be considered a compliment to the distinguished Berlin investigator that almost on his dictum alone, backed by his well-earned reputation for candor and truthfulness, the attention of the profession has been so strongly and earnestly directed to the novel treatment of tuberculosis. To few men would a similar confidence be accorded under the present circumstances of dealing with a preparation the composition of which is so persistently kept as a secret. Whatever may be the present excuse for withholding information concerning the makeup of the lymph, it is to be deplored, in the interest of science and humanity, that there should be any barrier whatever to its extended manufacture, and its widest possible dissemination. We have no doubt, however, that the real nature of this now mysterious fluid will shortly be made known—at least the distinguished discoverer owes it to the profession to do so in view of the implicit faith with which its members have received his statements, and the generous spirit with which they have interpreted his motives. So far, in this city at least, we have to congratulate ourselves that the lymph is now within reach and that we can see for ourselves what can be done with it.

It will of course be impossible to predicate any direct results in the cases treated during the past weeks. Aside from the fact that some of the phenomena of temperature reaction and increased hyperæmia of affected parts have shown themselves, nothing of real value as to cure can be determined within months from the present time. With so many observers on the alert it is safe to say that the tests will be very thorough and conclusive.

News of the Week.

Hospital Difficulty.—The brethren at Ottawa, Canada, are experiencing the rigors of hospital management, but appear to be standing manfully together. At a recent meeting of the Board of Directors of the Protestant Hospital, Dr. A. F. Rogers was dropped from the medical board without notice and without stated cause, and Dr. Kidd was appointed in his place. The seven other members of the medical board have resigned, and with them the newly appointed member, Dr. Kidd. As yet no one has been found to accept appointment to the vacant places. Unfortunately, this is not the practice in New York.

The Medical Society of Missouri Valley will meet at Kansas City on December 18 and 19, 1890. An interesting programme, consisting of twenty-two papers, has been announced.

Dr. F. Harman has been elected Superintendent of the Longview Asylum, at Cincinnati, O., in place of the late Dr. Miller.

Dr. C. B. Chesher, of Paulding, O., has been appointed Superintendent of the Cleveland Insane Asylum, in place of Dr. Janin Strong, who will retire on January 1, 1891.

Dr. Ralph Jackson died December 3d at his residence, 4 West Fourteenth Street, Dubuque, Ia., aged eighty-one years. Dr. Jackson was born in England and came to Dubuque nearly forty years ago. Dr. Jackson was a man of pure character and sterling integrity, and the shadows of his declining years were brightened by the respect and esteem of the community in which he lived.

Dr. J. B. Jones, Medical Superintendent of the Western Hospital for the Insane, Mississippi, died November 15th of consumption. He had been in charge of this institution since its inception, and was a live and efficient officer, always careful of the State's interests and attentive to duty. His remains will be buried at McKenzie, his former home.

Swallowed a Gold Safety-pin.—A patient of Dr. F. H. Wiggin, aged nine months, swallowed a gold pin, made something like a common safety-pin, an inch and a half long. The pin was open when swallowed, and was passed, pin point up, without harm, fifty-four hours later.

The Review of Insanity and Nervous Disease is the title of a new quarterly, edited and published by Dr. J. H. McBride, of Milwaukee.

An Infant Medical Phenomenon.—The Southern Medical Society in Atlanta has recently elected to honorary membership a boy phenomenon, who though only five years old has already acquired a knowledge of anatomy which is fully equal to that of most graduates of medicine. He is a regular attendant upon the anatomical lectures at the Southern Medical College, though he is himself, at present, a matriculate of the kindergarten department of a local academy, where we are informed that his long, golden curls, rosy cheeks, intelligent blue eyes, and amiable disposition make him a general favorite.—*Boston Medical and Surgical Journal.*

The Late Dr. Emil Neumer.—On November 4, 1890, a joint meeting of physicians and laymen connected with the St. Mark's Hospital and the German Poliklinik, respectively, was held at the residence of Dr. Beck, 187 Second Avenue. The late Dr. Emil Neumer had been connected with said institutions for a number of years. The following resolutions, submitted by a committee, were unanimously adopted:

Whereas, Our friend, Dr. Emil Neumer, supervising physician of the St. Mark's Hospital and a member of the German Poliklinik, has departed this life; and,

Whereas, By his untiring zeal and singleness of purpose he earned the good-will and gratitude of all connected with both institutions; and,

Whereas, His self-sacrificing labors contributed largely to undermine his health; be it

Resolved, That the physicians and members of St. Mark's Hospital and of the German Poliklinik, at a special joint meeting assembled, do express their deep sense of grief at the untimely loss of their friend and fellow-worker, Dr. Emil Neumer, and further express their heartfelt sympathy with, and tender their condolence to, his bereaved family; and,

Resolved, That a copy of these resolutions be published in the medical journals.

The Committee: For the St. Mark's Hospital—Dr. C. Beck, Dr. H. J. Boldt, and Mr. F. A. Botly;

For the German Poliklinik—Dr. H. Busche, Dr. S. Kohn, and Dr. Geo. W. Rachel.

DR. H. J. GARRIGUES, *Chairman*,
MR. MAX RUTTENAN, *Secretary*.

The Ohio Humane Society.—In the State of Ohio some philanthropic people have obtained articles of incorporation for an organization known as the Ohio Humane Society, the functions of which are to see to the effectual enforcement of all laws enacted for the better protection of helpless women and children, as well as that of dumb animals.

Chigger.—Dr. H. M. Whilply has been making further investigations of the chigger (*Leptus Irritans*). It is distinct from the South American and West Indian insect of the same name, which is of the flea family (*Pulexæ*). It has not been found in latitudes north of the fortieth degree, nor in the Far West. It does not limit its diet to human flesh, but has been found on chickens and on the common house-fly.—*Popular Science News*, July, 1890.

Ungrateful Republics.—Under the title of "Republican Cruelty," and *à propos* of the splendid reward of his Government to Dr. Koch for his discoveries, the *Boston Transcript* writes, sarcastically: "This is all very well for these effete monarchies, but in a republic of free men no such nonsense would be permitted. Witness our treatment of the discoverer of ether." Commenting on this, Dr. W. R. Hayden, of Massachusetts, writes to the same paper, saying that "our great Government was never more cruelly unjust, or did itself more discredit, than in its treatment of poor Dr. Morton, for his discovery of anæsthesia by etherization, in rejecting his claim for compensation. Dr. Morton's discovery outranks in value any other discovery ever made to prevent human suffering." He suggests that our Government should build a suitable memorial at Washington, D. C., to the man whose sublime mission was to prevent pain, not inflict it; or if such recommendation should not be deemed advisable, suggests that a subscription of fifty or one hundred thousand dollars be raised from the profession and the people to build the monument, agreeing on his own part to subscribe one thousand dollars.

A Mother at Sixty.—An old Swedish woman, living near Lapeer, Mich., recently gave birth to her first child after having been married thirty-eight years. The woman claims to be sixty years of age. The baby, a boy, weighed only three pounds at birth and was shrivelled, but otherwise healthy. The woman says that she was born when her mother was fifty-two years of age, and that her grandmother gave birth to twins at the age of sixty-three.

Why is this Necessary?—An effort is being made in Georgia to prohibit physicians, and prescription-clerks in drug establishments, from pursuing their professional calling, who may become intoxicated from the use of liquors and opiates.

Afro-American National Medical Association.—Owing to the refusal of Southern Associations to admit colored physicians into their meetings, a number of prominent colored physicians of the South have issued a call to all regular negro practitioners of the South and other sections to meet in Little Rock, Ark., December 19, 1890, to form an Afro-American National Association.

Transfiguration Clinic.—During the past year a medical service with the above title has been conducted in connection with the other charity work of the Rev. Dr. Houghton's "Little Church around the Corner," and the first report has just been printed. The clinic, located at No. 6 Pacific Place, West Twenty-ninth Street, between Sixth and Seventh Avenues, is hardly what its name implies, inasmuch as the patients are not used for purposes of teaching. It has several novel features which make it unlike any other clinic or dispensary in the city. It is intended only for the poor of the parish of the Church of the Transfiguration; each patient is treated with the same privacy and consideration that would be given in private practice; every case is investigated as to its ability to pay, and only the deserving poor are treated, and these are expected to pay something for the medicine if they are able. Cases are visited at their homes when necessary by the physician in charge of them, and not by a regularly appointed visiting physician, who knows nothing about the case and has no personal interest in it. Nursing is supplied when required, and food is sent out to those who need it. It is believed that nursing and food often play as important a part in the cure as do doctoring and medicine. The attending staff consists of Drs. Edward Quintard, Charles T. Parker, Richard Kalish, Robert C. Myles, Lewis R. Morris, Rowland G. Freeman, Calvin L. Harrison, and Brentano Clemens.

New Hospitals.—A new hospital, to contain forty-eight beds, is to be built at Fall River, Mass. A lying-in hospital is to be erected in connection with St. Paul's Orphan Asylum, at Pittsburg, Pa. A $50,000 hospital is planned for Macon, Ga., and another for Brunswick, Ga.; and at Omaha, Neb., the Sisters of Mercy have well under way a hospital building for the accommodation of four hundred patients.

The Influenza in Massachusetts.—The Secretary of the Massachusetts State Board of Health closes his annual report with the following interesting facts about last winter's epidemic: "1. The first appearance of the influenza in Massachusetts as an epidemic, in the past season, may be stated to have been on December 19 or 20, 1889, and the place of its first appearance was Boston and its immediate neighborhood. 2. It increased rapidly in the number of persons attacked, and reached its crisis generally throughout the State in the week ending January 11, 1890, after which date it gradually declined in severity, and had nearly ceased as an epidemic by February 10th; so that the duration of the epidemic was about seven weeks. It reached its crisis earlier by several days in Boston than in the smaller cities and the remoter parts of the State. Its course was still later in Nantucket, Dukes, and Barnstable Counties. 3. The ratio of the population attacked was about forty per cent.—or more exactly, as indicated by the returns, thirty-nine per cent. —or about eight hundred and fifty thousand persons of all ages. 4. People of all ages were attacked, but the ratio of adults was greatest; of old people next, and of children and infants least. 5. The weight of testimony appears to favor the statement that persons of the male sex were attacked in greater number and with greater severity than females. 6. The average duration of the attack (acute stage) was from three to five days. 7. The predominant symptoms were mainly of three general groups—nervous, catarrhal, and enteric, the last being much less common than the others; the special symptoms most observed in the nervous group being extreme depression, pain, and weakness; in the catarrhal group, cough, dyspnœa, and coryza; and in the enteric group, nausea, vomiting, and diarrhœa. 8. The chief diseases which followed in the train of influenza, and were intimately associated with it, were bronchitis and pneumonia. Phthisis, when already existing in the victim of the attack, was undoubtedly aggravated; and, in many cases, a fatal termination was hastened. 9. The ratio of persons attacked in industrial and other establishments employing large numbers was about 35.5 per cent., or less than that of the population at large. That of the inmates of public institutions was still less—twenty-nine per cent. 10. The ratio of persons who were obliged to leave their work on account of illness from influenza was about twenty-seven per cent. of the whole number employed. 11. The average length of their absence from work was five days. 12. Special occupations do not appear to have had a marked effect in modifying the severity of the epidemic upon operatives in such occupations. While the atmosphere may constitute one important medium of its communication, human intercourse also suggests itself as an equally important factor."

Dr. Samuel Lewis, of Philadelphia, died November 26th, ar Bryn Mawr. Dr. Lewis was born on the island of Barbadoes, West Indies, in 1813. He studied medicine in the University of Edinburgh, from which he was graduated in 1840 with the degree of M.D.

Prize of the New York State Medical Association. —Dr. J. G. Orton, ex-President of the New York State Medical Association, has offered a prize of $100 for the best short popular essay on some subject connected with practical sanitation, under the following conditions: 1. Competition to be open to all. 2. Essays to be forwarded to the Secretary of the Association, Dr. E. D. Ferguson, Troy, N. Y., not later than August 1, 1891, accompanied by the name of the author under separate seal. We trust that the State Association will be more successful than the State Society or the New York County Medical Society. The latter organization has not found a beneficiary for its $100 gold medal, if we remember correctly, for eight years.

The Attractiveness of Chicago to Physicians.—It was stated at the recent annual meeting of the Illinois State Board of Health that at no time since the organization of the board had there been such an influx of physicians into Chicago as within the preceding three months, during which time more than two-thirds of the licenses issued to practise medicine were to practise in Chicago. It was also stated that never before had there been such a number of quacks trying to get a foothold in that city. This was partly attributed to the attractiveness of the prospective fair, and partly to the increase of population. —*New York Medical Journal.*

Bequests to New York Hospitals.—By the will of the late Daniel B. Fayerweather, of this city, the following bequests are made to hospitals in this city: Presbyterian Hospital, $25,000; St. Luke's Hospital, $25,000; to the Manhattan Eye and Ear Infirmary, $25,000; the Woman's Hospital, $10,000; Mount Sinai Hospital, $10,000.

Dr. James L. Stewart, one of the most distinguished surgeons in Pennsylvania, died December 3d, at Erie, at the age of sixty-six. He had been Vice-president and President of the Pennsylvania State Medical Society, was a member of the American Medical Society, also a member of the International Medical Association. He had been a member of the American and International Executive Committees, and was a conspicuous figure in securing legislation, both national and State, for medical institutions.

A Novel Suit.—Judge Schuyler, of Easton, Pa., has rendered his decision in the novel lawsuit he heard at Stroudsburg some time ago, in which Dr. Josephus Williams brought suit for damages against Dr. Amzi Lebar and Dr. J. H. Shull. The doctors pronounced Dr. Williams insane, whereupon he was confined in the Danville Insane Asylum in 1876. The doctor secured his release from the asylum, and brought suit for damages on the ground that the defendants negligently and falsely signed a certificate to the effect that he was insane. Dr. Shull subsequently settled his suit with the plaintiff. Dr. Lebar refused to settle, and now wins. Judge Schuyler's decision is, that while it was not proved that the plaintiff was insane at the time of imprisonment, no negligence on the part of the defendant was shown, and a verdict was rendered in favor of the defendant.

Iowa is the Place.—If one wishes to secure immortality he had better go to Iowa, where, according to the State Board of Health's estimate the death-rate is only four per thousand annually. The most favorable estimate of mortality in the most ideally sanitary community has heretofore been supposed to be only four per one thousand.

A New Treatment for Prolapse of the Rectum, introduced by Dr. S. D. Powell, and but little known, consists in rolling in and strapping the buttocks together with two strips of adhesive plaster, extending sufficiently forward to secure a good hold. The child (or adult) defecates with these in position, is thoroughly cleansed after the act, and new strips applied. This method, which in the hands of the inventor has never failed, is based on the fact that thereby the relaxed sphincter is elevated and supported during the strains put upon it while the child is at play and protected from the lateral traction occurring in the squatting position assumed in defecation. It and the parts above gradually regain their contractile power and ultimately become competent to fulfil their function normally.—*N. Y. Correspondence Peoria Med. Monthly.*

The American Association for the Cure of Inebriety, which has celebrated its twentieth anniversary, began a series of monthly meetings in the hall of the New York Academy of Medicine. The first meeting was held December 10th.

Biography of Dr. Robert Koch.—Dr. Koch was born forty-seven years ago at Clausthal, in the Hartz Mountains, he was educated and graduated at the University of Gottingen. Shortly after taking his degree he established himself in a village near Hanover and began to practise as a physician. Finding, however, that it was impossible to make both ends meet, he migrated to Rackwitz, a little malarious town in Prussian Poland, which he subsequently deserted for Wollstein. It was while there that his name came before the public in 1880 as an expert in connection with the famous Speichert poisoning case. The conviction of the prisoner in this *cause célèbre* was entirely owing to the remarkable analyses and medical testimony of Dr. Koch, which attracted widespread attention by reason of their profound erudition. Later he made some remarkably accurate studies in septicæmia. In 1882 he first made the great discovery that tuberculous diseases were due to the existence of bacilli. In 1883 his labors were interrupted by his being placed at the head of the medical commission dispatched by the German Government to Egypt and India for the purpose of making researches into the origin and the causes and prevention of cholera. It was while at Calcutta that he succeeded in discovering the like germ of cholera. On his return to Germany he was rewarded by the Government for his researches with an honorarium of 100,000 marks, with the rank of Privy Councillor, and with the Rectorship of the Imperial Institute of Hygiene.

Longevity.—The medical profession is not usually considered one favorable to extreme longevity, but a retired naval surgeon—Deputy Inspector-General Robert McCormick—has just died at the age of ninety. He was a pupil of Sir Astley Cooper, and was surgeon to several arctic and antarctic expeditions. His arctic and antarctic experiences extended from 1827 to 1853. In the former year he accompanied Sir Edward Parry in the Hecla in his attempt to reach the north pole. He was chief medical officer and naturalist to the antarctic expedition of 1839–43, and commanded the boat expedition in search of Sir John Franklin in 1852.

MORE EXPERIENCES IN BERLIN WITH KOCH'S LYMPH.

By Direct Cable to the Medical Record.

(From a Staff Correspondent at Berlin.)

Berlin, December 9, 1890.

Koch's discovery continues to be the main point. The possibility of making animals immune against diphtheria increases Koch's glory. The audiences and clinics are still crowded, but not so much as last week. As to the results of Koch's treatment, the time of observation has been too short in order to prove the therapeutic value, but in localized, accessible, and visible tuberculosis, viz., tuberculosis of the joints, bones, skin, and larynx, the efficacy of the remedy has been proven. Bergmann and Bardeleben demonstrate in their clinics patients with stiff tubercular joints which become movable, and secreting fistulas which heal completely after a few injections.

In the last Charitisitzung, December 5th, Henoch read a paper on the administration of Koch's remedy. In children he has used the remedy in eleven tubercular patients since fourteen days. All have given the characteristic reaction. He began with 0.0003 c.c., slowly increasing the doses. In meningitis tuberculosa he would be afraid to use the injections on account of hyperæmia of the brain, but even in other cases we must be very cautious with the administration of the remedy.

Professor Ewald read a paper on Koch's remedy in phthisis. In advanced cases of phthisis he would not use the remedy. In most of the cases there was an amelioration of appetite, in several the night-sweats ceased.

Dr. Litten presented a female patient who had been infected by nursing her phthisical sister. She had used the handkerchief of her sister. Lupus on the nose and tubercular ulcer on the gingiva. After the injection of one milligramme, temperature 40° C.; the gingiva reddened intensely and decayed and new miliary tubercles arose. The efficacy of the remedy consists in acute decay and necrosis. The decayed tubercles give the fever.

Last night, December 8th, in the meeting of the Gesellschaft für Offentliche Gesundheitspflege, Linder, Fraenkel, and Krause read papers on their experiences with Koch's remedy, containing the same ideas which have been already described. In the tubercular larynx Krause said the healing process by the injection can be observed from day to day.

The lymph is very scarce, and the foreign physicians will have to wait several weeks before being supplied with it. Leyden told me that he has lymph in the Charité, but he is not allowed to use it on his private patients.

The letters asking for lymph must be addressed, Dr. Libbertz, Lueneburger Strasse, 28, Berlin. The cost of one vial is twenty-five marks. Last week there arrived from America, Drs. Aronson, Bettins, and L. Weiss, from New York, and Dixon, from Philadelphia.

THE INOCULATIONS OF PROFESSOR KOCH'S LYMPH IN NEW YORK.

THE first inoculations of Koch's lymph in New York were made Tuesday at 5.30 P.M., at the Hospital for Ruptured and Crippled, by Dr. Allan McLane Hamilton. One milligramme was used, properly diluted with sterilized water, and injected by means of the Koch bulb-syringe, a description of which appeared in our last issue.

On Tuesday morning, December 9th, Dr. Hamilton notified Dr. Gibney that he had a small vial of Koch's lymph, and would like to employ it in a case of tubercular meningitis. Dr. Gibney replied at once that he fortunately had no such case at present in the hospital, but had many cases of bone tuberculosis, and would be glad to have him call in the afternoon to make such experiments as he desired.

The following is the preliminary report made by Drs. V. P. Gibney and Allan McLane Hamilton:

CASE I.—At 5.30 P.M., in the presence of two members of the Consulting Staff, Drs. J. H. Ripley and L. E. Holt, Dr. W. R. Townsend, Assistant Surgeon, Dr. George De F. Smith, and the members of the House Staff, the first inoculation in a public institution in this city was made upon a boy, ten years of age, who had been under treatment in the hospital for several years for tubercular ostitis of the right hip. This case was selected because his general health was good, because the sinuses had closed, and because it was believed that a cure was complete. Dr. Ripley examined his lungs with negative result. His pulse was 76; respiration, 20; and temperature, 98¼° F. The syringe had been previously sterilized and 2 minims of the solution, strength 1 milligramme = 5 minims, was injected in the interscapular space by Dr. Hamilton. At 6.45 P.M. his pulse was 80; respiration, 20; temperature, 98⅘° F. At 7.45 P.M., pulse, 76; respiration, 20; temperature, 98½° F. At 8.45 and 9.45 the vital signs were practically the same. At 10.45 his pulse was 72; respiration, 19; and temperature, 99° F. There was no rise of temperature beyond this. He slept well during the night and kept his bed during the following day, Wednesday. He complained of a little soreness about the puncture, and there was a slight area of redness, but beyond this there was nothing that could be construed into a reaction. At 6 P.M. on this date 5 minims of the same solution were injected, and up to the present writing there has been no reaction.

CASE II.—A member of the House Staff was selected as a healthy subject, lungs examined by Dr. Ripley with negative result, and 5 minims were injected in the interscapular space. Careful records were kept during the evening without any positive result. In the morning the doctor reported that he experienced no change whatever, save a little accentuation of pain around some scratches on his hands, produced by plaster work.

CASE III.—December 10th, a boy, aged twelve, typically tuberculous in appearance, in hospital since May, 1889. Excision of knee for tubercular disease had been performed last spring. A large portion of bone had been removed, but sinuses remained and these had been treated with the peroxide of hydrogen. In addition to the sinuses, an ulcer, supposed to be tuberculous, existed on the posterior aspect of the thigh. This case was selected in the hope, also, that the process had been arrested. Dr. John S. Thacher examined his lungs with negative results; injection of 5 minims made at 6.20. A careful record was made every hour preceding and subsequent to the inoculation, from 5 P.M. to 12 midnight. There was no elevation of temperature whatever. This morning, December 11th, the boy reports himself as feeling quite well; complained during the night of pain in his back, which pain prevented him from sleeping; beyond this, no reaction.

CASE IV.—December 10th; girl, aged seven; under treatment since May 23, 1890, for dorsal Pott's disease with abscess about the right hip. This had been opened and treated after Billroth's method. For the past week she has been out of health, had a decidedly "strumous" appearance, and, for the past day or two, has suffered from a phlyctenular conjunctivitis. Her lips are large and flabby and eyes heavy. Dr. Thacher examined the lungs, pronouncing them healthy. At 6.25 P.M. 3 minims of this same solution were injected, the usual records having been made. A 11 o'clock in the evening, the night nurse reported that the child was suffering from "snuffles," was breathing heavily, and was not resting well. The vital signs, however, showed no change. This morning, December 11th, she is resting comfortably, her vital signs are normal, she does not complain of any pain about the site of puncture.

Following these inoculations was one made 11 A.M. Wednesday, by Dr. Francis P. Kinnicutt at St. Luke's Hospital, in the presence of the Visiting and House Staff. The patient was a female with pulmonary tuberculosis, the disease being limited to the extreme apex of the right lung, attended with the evidences of simple infiltration. A large number of tubercle bacilli were found in the sputa. Five and a half hours after inoculation her temperature began to rise, so that at the end of twenty-four hours it reached 101.2° F. There was during this time a slight increase in expectoration, and also in the moisture of the râles.

The first public inoculation of the lymph was made by Dr. A. Jacobi on Wednesday, 12.30 P.M., at the Mount Sinai Hospital. Besides the members of the Visiting and House Staffs there were present several physicians, among whom were Drs. A. L. Loomis, E. G. Janeway, Mitchell L. Prudden, F. P. Kinnicutt, C. L. Trudeau, and George F. Shrady. Eight persons were treated.

Case I. was that of a girl, aged eleven, with tubercular consolidation of both apices. At the end of four hours the temperature rose to 100.6° F. Slight increase of expectoration at end of twenty-four hours.

Case II., a female child, aged eight, with chronic tuberculous glands of the neck. Three hours after inoculation temperature commenced to rise gradually until fifteen hours after it reached 103.6° F. There was slight pain at the point of injection, with swelling of the glands of the neck. There were no rigors.

Case III., male, aged thirty, with lupus of face of ten years' standing. Twenty-four hours after injection there was marked redness of the lupus scar. No temperature reaction.

Case IV., male, aged twenty, with lupus of penis. Twenty-four hours after inoculation slight redness about the growth. No temperature reaction.

Case V., adult female with pulmonary tuberculosis. Six hours after injection temperature rose to 100° F., and then gradually subsided.

Cases VI. and VII., adult males with pulmonary phthisis. In one of these the temperature rose to 101.8° F. in the course of nine hours, and in the other to 100.2° F. in twenty-four hours.

Case VIII., a normal case for "control," male adult. The temperature rose, despite the absence of physical signs, to 100.2° F. in twenty-four hours.

In all the cases of tuberculous phthisis tubercle bacilli were discovered in the sputa.

In all the cases mentioned the uniform dose of one milligramme diluted to one gramme in bulk was used, the injections, save in one case of lupus of the penis, being made in the interscapular integument. In the exceptional case mentioned the lymph was introduced under the skin of the left inguinal region.

On Thursday, at 3 P.M., Dr. Kinnicutt gave a public exhibition of the inoculation method at St. Luke's Hospital. Among the medical guests were Drs. Leaming, Prudden, Trudeau, Coe, Keyes, Fox, Lefferts, Weir, Cleveland, Biggs, Bull, Draper, Robinson, Abbé, Dana, and Shrady.

Five patients in all were treated. In each the same dose of one milligramme in a hundredth dilution of sterilized water was inoculated.

Case I., female, aged twenty-two, with lupus of left ear, sent by Dr. George L. Fox. The disease existed for twelve years, and followed the operation of piercing for earrings. No pulmonary complication.

Case II., female, aged twenty; enlarged cervical and inguinal glands of six months' duration. No pulmonary complications. Knee excised by Dr. Abbé for tuberculous disease in December, 1886.

Case III., male, aged thirty-five, sent by Dr. E. L. Keyes, with a diagnosis of tuberculous disease of the prostate, in order that diagnosis might be confirmed by reaction after inoculation.

Case IV., male, aged thirty-five. Tuberculous glands of the neck of two months' duration.

Case V., male, aged twenty-nine years. Lupus of hand, slight evidences of consolidation of left apex.

Dr. A. Jacobi inoculated also on Thursday five additional patients at Mount Sinai Hospital, using one milligramme of the lymph, as before. These cases were respectively as follows: Caries of rib and tibia, caries of the spine, pulmonary phthisis, tuberculous glands of neck and groin, and pulmonary phthisis of both apices.

Up to the time of going to press, Thursday night, no temperature reactions were noted either in Dr. Jacobi's or Dr. Kinnicutt's cases of that day.

Dr. Jacobi also inoculated three cases of phthisis at the German Hospital on Thursday afternoon.

While the laudable and generous rivalry prevails of making the early records of inoculation, it is proper to note that the first inoculation made in America was at New Haven, Conn., on Tuesday of last week. The operator was Dr. Francis Bacon, of that city. He has used the lymph in three cases. One, and the first, was a typical case of lupus of four years' standing, in which two injections were administered, with nearly forty-eight hours interval. The first was of five milligrammes. The apparent effects were so entirely negative that the next injection was made twice as large, *i.e.*, one centigramme. Up to thirty-eight hours after this second injection, the only visible effect was a slightly ecchymosed area about the puncture. No temperature or pulse reaction after either application in this case, and no decided subjective or objective symptoms.

The other two cases were of advanced pulmonary phthisis, in the first of which only half a milligramme was employed on account of the great weakness of patient. The temperature rose one degree within an hour, but subsided within three hours. A second injection of the same amount was followed by the same reaction.

In the third case, which was selected on account of visible laryngeal lesion, the first injection, by Dr. Bacon, was one milligramme. Reaction slight and transient.

The history of these cases is the starting-point for investigation in this and other cities. We shall endeavor to keep our readers duly informed of their progress from time to time. We have thus far given only the barest outlines as matters for reference, trusting that the gentlemen more directly concerned in the treatment of these cases may at some future period furnish the necessary details and results.

A New Medical College in Baltimore.—The newspapers announce the organization of the "Southern Homœopathic Medical College." Twelve chairs and two lectureships were filled by local practitioners, vacancies remaining in the chairs of surgery and operative surgery. This institution, with its hospital, is the outgrowth of a schism in the homœopathic camp. As they are backed by a large and wealthy following, the institution will doubtless meet with an early and substantial success.—*Journal of American Medical Association.*

Obituary.

SURGEON-GENERAL JEDEDIAH H. BAXTER,

WASHINGTON, D. C.

SURGEON-GENERAL BAXTER died of apoplexy at his residence in Washington on December 4th, aged fifty-three years. His death, just after he had reached the object of his long ambition, and just as he was placed in an office whose duties he was admirably calculated to fulfil, is a sad comment on the uncertainty of human affairs. His untimely end is a hard blow also to his many friends, who expected so much of him in his new field of usefulness.

Dr. Baxter was born in Stafford, Vt., May 11, 1837. In 1859 he was graduated from the academical department of the University of Vermont, and entering the medical department of the same institution, he was graduated M.D. in 1860. Upon receiving his degree he established himself in Washington, but in 1861 relinquished private practice and entered the United States service as Surgeon to the Twelfth Massachusetts Regiment. He was promoted to be Surgeon of the United States Volunteers in 1862, and was brevetted Colonel in 1865. In 1867 he was appointed assistant medical purveyor, and in 1874 was made chief medical purveyor, which office was created expressly for him. In 1875 he received the degree of LL.B. from Columbia University, Washington.

He was a member of the District of Columbia Medical Association, the District of Columbia Medical Society, Public Health Association, American Medical Association, and a corresponding member of the Boston Gynecological Society, and of the Philadelphia Academy of Natural Sciences. He was a contributor to the leading scientific periodicals, and the author of "Medical Statistics of the Provost Marshal General's Bureau."

On August 16th last he was appointed Surgeon-General in the place of Surgeon-General Moore, retired.

SIDNEY ALLAN FOX, M.D.,

BROOKLYN, N. Y.

DR. SIDNEY ALLAN FOX died December 11th, of pneumonia, at 22 Cambridge Place, Brooklyn, in his thirty-fourth year. He graduated from the University of Kentucky, and in 1880 began the practice of medicine in this city. For the past eight years he practised in Brooklyn as a specialist in the treatment of diseases of the nose, throat, and lungs. He had been surgeon of the Brooklyn Elevated Railroad Company since its opening. Three years ago he established the Brooklyn Dispensary at 545 Fulton Street, for the free treatment of patients in his special department. Last summer he participated in the Medical Congress in Berlin as a delegate from the Medical Society of the State of New York. His widow, who is also suffering from an attack of pneumonia, is the only daughter of Congressman-elect William J. Coombs.

Hot Water in a Hurry.—Very often a physician needs hot water in the middle of the night when there are no conveniences at the house of his patient to obtain it. Especially is this apt to be the case in summer time. If there should be a kerosene lamp handy with a chimney having a corrugated top this want can be easily met. Place an ordinary tin cup with a sufficient amount of water upon the top of the chimney. The corrugations let out the heated air so that the lamp will not smoke and the water will quickly become hot. This is often a great convenience, and it is astonishing how quickly the needed hot water can be obtained. As a practical thing it may serve a useful purpose—*Dixie Doctor.*

Society Reports.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Third Annual Meeting, held in Atlanta, Ga., November 11, 12, and 13, 1890.

FIRST DAY, TUESDAY, NOVEMBER 11TH—MORNING SESSION.

THE Association convened in Concordia Hall, and was called to order by the President, DR. GEORGE J. ENGELMANN, of St. Louis, Mo., at 9.30 A.M.

Address of Welcome was delivered by MAYOR GLENN, the response to which was made by DR. R. B. MAURY, of Memphis, Tenn.

How shall we Treat our Cases of Pelvic Inflammation?—DR. R. B. MAURY, of Memphis, then contributed a paper on this subject. The paper gave a comprehensive *résumé* of the pathology of chronic pelvic inflammation, as it has been clearly demonstrated by Bernutz, Polk, Coe, and others, and by the results of abdominal section. This pathology is that of pelvic peritonitis dependent upon tubal disease—not cellulitis. The author declared the term chronic cellulitis a misnomer—a pathological condition which existed only in the imagination of the physician, a term which had been productive of pernicious results in practice, and which should no longer be used in connection with non-obstetric pelvic inflammation.

When the pathology rests upon such positive and abundant evidence, the question might be asked, why reopen a discussion upon it now? Because it is evident, from our society proceedings and hospital reports, that great confusion exists in the medical mind to-day in regard to it. Dr. Byrnes's case, discussed in the New York Obstetrical Society during the present year, was taken as an illustration. In speaking of such cases, the great tendency to relapses in chronic pelvic inflammation was illustrated by two cases, in which pus-tubes were found five and seven years after attacks of peritonitis, and when it was supposed the patients were entirely restored to health. Upon the subject of treatment the writer admitted that by non-surgical therapeutic measures large intraperitoneal exudations are often absorbed, and even some tubal and ovarian inflammations entirely disappear, and recovery seems complete. But this is the exception, and by no means the rule. For the radical cure of chronic pelvic inflammation, non-surgical treatment fails in a majority of cases. A great many women, suffering to a moderate degree, continue to do so in spite of the best directed non-surgical measures, and perhaps wisely elect not to undergo operation.

As a rule, the only radical and permanent relief is afforded by removal of the diseased appendages. The treatment of pus collections, of course, requires abdominal section.

The Motive and Method of Pelvic Surgery.—DR. JOSEPH PRICE, of Philadelphia, followed with a paper on the above subject, in which he said pelvic surgery must be considered apart from abdominal surgery. It is distinct from it, both in the nature of the lesions dealt with, in the difficulties it presents, and in the complications and embarrassments to routine technique.

Nowhere as much as in pelvic surgery does the distinction between the general surgeon and the specialist in pelvic disease stand out so clearly. Pelvic adhesions in appendicitis, for instance, Mr. Treves would deal with by the knife. If this is feasible, why not put the knife to ovarian and tubal abscess, to all intestinal fixation by inflammatory processes and the like? The very suggestion of such method to the mind of the specialist, accustomed to deal with all the complexities of pelvic surgery, is fraught with evil, and this mere suggestion only makes it clear that general surgeons, in so far as they are entirely wedded to the knife in removing disease, fall short of the demonstrated harmfulness of its application in pelvic work.

Relative to electricity, Dr. Price said that electricians yet talk learnedly of the undetermined place of electricity in the treatment of ovarian cysts, but tar-water and tractors have gone to their long rest. The time must yet come when the claims made for electricity as a universal panacea must be exploded, and its real, limited, and narrow horizon of usefulness be well defined. The pernicious effect of so-called cures of reported complicated cases, adhesions, inflammations, and the like, by men without training, who look only at the ampèremeter while they adjust a clay pad or introduce a galvanic sound, is not to be over-estimated. He had repeatedly shown, by exhibited specimens, the fallacy of the claim of exact diagnosis made by these men, and the arguments are irrefutable. He believed that the only position assumed by the electricians that has the slightest foundation in fact, is that electricity will sometimes control hemorrhage and relieve pain. That it cures either is not proven.

In dealing with adhesions the first point to be sought after is to find a crease or crevice, into which some progress can be made. In separating intestinal adhesions they should be broken as far from the bowel as possible. The further away, the less liable will they be to bleed, and the absence of hemorrhage is a great comfort in these cases. The strings of adhesions may be dealt with according to their size; it sometimes being best to remove them, at others there is no necessity for this. In doubtful cases their removal is the better surgery. All bowel adhesions should be carefully examined after their separation. By so doing, fecal fistulæ will often be avoided by the careful placing of an intestinal suture. It hence is apparent that no pelvic surgery should be attempted until the operator is competent to deal with intestinal wounds, even to resection and anastomosis. Once the adherent mass is removed, the ligature should be applied close up to the cornu uteri. The ligature should not be so heavy as to resist knotting, nor so light as to break easily. The ordinary surgical knot is the safest of all knots with which to tie the pedicle. It constricts more evenly and certainly, and will slip less readily. The leaving of sufficient button is of the greatest importance to prevent slipping of the ligature.

In the treatment of extra-uterine pregnancy his urgent advice is, to operate without delay when the symptoms point to the disease, with the assurance that delay will only complicate matters and sacrifice the life of the mother.

The field of pelvic surgery, said Dr. Price, is not one of experiment or palliation; that it strives in all cases to remove the offending body in order to conserve the rest of the economy; that its tenets are founded on philosophy and fact, not fiction; and that its worth lies in its proven results. The surgery that plucks out the eye, or casts aside the limb to save the eye, or the limb, or the life, is greater, better, and wiser than a sentiment that preserves a shell to enclose a ruin.

AFTERNOON SESSION.

Suprapubic Cystotomy in a Case of Enlarged Prostate.—DR. W. H. H. COBB, of Goldsborough, N. C., read a paper on this subject. The patient, a farmer, married, aged forty-nine, rheumatic diathesis, dated his troubles back to 1881. While attending to the duties of register of deeds, he carelessly allowed over-distention of his bladder, and had suffered more or less since that time. In 1882 he had an attack of nephritic colic and passed a small calculus, similar in size and shape to a grain of wheat. On three different occasions he passed dark, gritty deposits. In 1883 he suffered much inconvenience and some pain in urinating. In 1887 he passed a dark, gristly, bloody substance about the size of a corn-pea, accompanied by much pain and bloody urine. For the

past three years he has suffered much with cystitis in a very aggravated form, with great pain and difficulty in defecation, urine containing much blood, pus, and mucus. The patient's efforts to relieve his bladder and bowels were tormenting, and night after night was spent in walking over his premises, with groanings so severe as to disturb his neighbors. The patient consulted Dr. Cobb, June 15th last, and from the history of the case he suspected vesical calculus, but failed, upon examination with sound, to detect any stone. A digital examination, however, per rectum, disclosed the right lobe of prostate greatly enlarged, rough, indurated, exceedingly tender and sensitive. After consultation by letter with Hunter McGuire, he decided upon suprapubic cystotomy as the only hope of permanent relief, which was done after the method of Dr. McGuire, on June 23d. At the expiration of two months (August 23d) he found the prostate perfectly normal, with no symptoms of cystitis, and withdrew the plug, allowing the fistula to unite, which it did in about ten days. His patient performs the acts of urination and defecation without the slightest trouble, and expresses himself as entirely relieved, and is at present following his usual vocation.

Inflammation in and about the Head of the Colon.—Dr. L. S. McMurtry, of Louisville, read a paper on this subject. He said the teachings to be found in systematic treatises on surgery and practical medicine, upon inflammation and its results in and about the caput coli, are not only worthless but positively misleading. This is true not only as to pathology and treatment, but even as to the anatomy and relations of the cæcum and its appendix.

It is well known that inflammatory changes in the vermiform appendix are in almost every case the origin and seat of the inflammatory diseases about the caput coli. Inflammation of the cæcum is very rare, yet the testimony of surgeons and pathologists is abundant that, in a certain proportion of cases cæcitis, with perforation, occurs without involvement of the appendix. Regnier, in 1886, operated in a case presenting symptoms of intestinal obstruction with peritonitis, doing an abdominal section. At the autopsy cæcitis, with perforation, was discovered. In 1888 the speaker operated in a case of perforative cæcitis and sutured two perforations in the cæcum. His patient recovered and was present in the Surgical Section of the American Medical Association, in May of that year.

Fecal impaction has been mentioned by surgical writers as a cause of inflammation about the head of the colon. Pain over the cæcum, with a fecal mass perceptible on pressure often occurs, but rarely, if ever, associated with peritonitis. A few weeks since Dr. McMurtry saw a case, in conjunction with Dr. H. H. Grant, of Louisville, in which a localized peritonitis existed in the right iliac fossa, with a well-defined, firm tumor. Abdominal section was done, and instead of appendicitis, they found the disease to be cancer of the caput coli. Irrigation and drainage rescued the patient from the immediate danger begotten by active peritonitis. The patient was a woman of middle age, and the engrafted peritonitis presented the symptoms of an acute condition. Malignant disease of the cæcum has not, so far as the writer is aware, been mentioned by writers upon this subject as a probable condition in the diagnosis of deep-seated inflammations of the right iliac fossa.

The decision to operate should be determined more by the grade of the inflammation than by the time it has existed. When a diagnosis has been made, and three days have elapsed without subsidence of pulse and temperature, operation should be done.

Dr. McMurtry submitted the following conclusions: 1. Inflammation about the caput coli is, as a rule, inflammation of the appendix. 2. A certain proportion of cases will recover spontaneously by resolution. With these recurrence of the disease is common. 3. In the larger proportion the disease will endanger life, and may at any moment assume a condition practically hopeless. 4. Early operative interference involves less danger than delay, and should be resorted to in all cases in which a high grade of inflammation is persistent. 5. The essentials of the operative technique are brief anæsthesia, quick and thorough work, removal of the appendix, irrigation, and drainage. The lateral incision is preferable to the median.

Evening Session.

The Causes of Ill-Health in American Girls, and the Importance of Female Hygiene, was the subject of an address delivered by President Engelmann. He showed that the health of the American girl is threatened and impaired by causes more or less avoidable, as they are due to our methods of life, our methods of training and education; that the physique of this girl, most favorably situated amid auspicious possibilities, is imperfect; her brain overworked, her nerve-power exhausted, her function impaired, and reproduction endangered, all by reason of the susceptibility of her peculiar organization, and the increased impressionability of the sensitive system during the years of development, in which it is subjected to the most severe strain.

The remedy is attention to woman's peculiar organization and the cyclical waves of her dominant function; or, in other words, harmonious development and occupation of nerve and muscle; diminished brain-work and nerve-stimulation, with increased and co-ordinate physical exercise; increased protection and diminished compression of dress; self-knowledge and individual care during periods of heightened susceptibility. Changes are necessary in custom and fashion, in methods of labor and education. A harmonious co-education of mind and body should be approximated, with coincident maintenance of proper hygienic conditions.

Dr. Engelmann closed with a plea for the self-care of the American girl and her proper physiological instruction by the mother, which will mitigate or remove the initial cause of many of her ailments. Upon the mother he would impress that the perfect development of the female function, and the maintenance of this function, once developed, in a healthy condition, is essential to the perfect development of the girl and the perfect health of the woman; that self-care, a well-regulated female hygiene, is the foundation of her well-being.

Second Day, Wednesday, November 12th—Morning Session.

Indications for Operation in Ectopic Gestation.—Dr. C. A. L. Reed, of Cincinnati, O., read a paper on this subject. The paper starts out with the assumption that the only proper treatment of ectopic gestation is by laparotomy, or, more properly, colotomy. While the profession has become practically unanimous that this is the proper line of treatment, the indications for operation have been less definitely decided upon. This conviction is forced upon the observer not only by a study of the literature of the subject, but by encountering cases which have been advised against operation by their attending physicians until hemorrhage within the pelvis has threatened a fatality, which is but too frequently realized. The most legitimate excuse for this dilatory practice is to be found in the confusion which has arisen with regard to the supposed uniform causal relationship of ruptured ectopic gestation to pelvic hæmatocele, and the division of the latter into "primary" and "secondary" rupture. These terms are unfortunate, and, as used in this connection, may be entirely arbitrary. Primary rupture is made to mean rupture beneath the peritoneum, instead of first rupture, as the etymology of the word would imply, while secondary rupture is made to mean rupture within the

peritoneum, instead of second rupture; whereas an intra-peritoneal rupture may be, and frequently is, a primary rupture, when spoken of with reference to the sequence of events in ectopic gestation There would be no serious confusion even here, if we were not also taught to leave extra-peritoneal hæmatoceles alone, to be taken care of by absorption, and if we did not add that, as these hæmatoceles are generally caused by ruptured ectopic gestation sacs, we are to relegate these cases also to the expectant plan of treatment. This conclusion is without warrant, and is responsible for hundreds of deaths annually from this one cause.

The treatment of ectopic gestation premises the diagnosis of this condition. This is obviously difficult, and in the majority of instances cannot be arrived at at all, or, if at all, only presumptively; but in all these cases conditions can be found in the pelvis, which, if not conclusive of extra-uterine pregnancy, yet constitute conclusive indications for exploratory operation. The presumption of ectopic pregnancy can be arrived at before rupture chiefly by a history of previous sterility, by a previous amenorrhœa, followed after a few weeks by irregular hemorrhage, by increased tumefaction to either side or back of the uterus, and by the existence of false decidua within the uterus. The latter fact may be safely determined by the judicious use of the Emmet curette forceps. The diagnosis after rupture is essentially the diagnosis of internal hemorrhage. Time wasted either to determine the cause of that hemorrhage, or to find out if it be primary or secondary, is criminal. The thing to do is to cut down and operate. The position has been taken that time should be taken for the patient to rally from the shock. One of Dr. Reed's own cases died simply because he waited twelve hours for reaction—a lesson which taught him the fallacy of the old teaching, and which has since saved lives at his hands. The best way to overcome shock from internal hemorrhage is to stimulate the patient by giving ether, stop the drain by ligating the bleeding vessels, and rouse the nervous system by washing out the belly with hot water.

Dr. Reed's conclusions are: 1. The only proper treatment of ectopic gestation is that by abdominal section. 2. The operation should be done in cases before rupture as soon as the condition can be presumptively diagnosed. 3. The operation should be done in cases after rupture as soon as the evidences of internal hemorrhage become apparent. 4. In cases in which the period of viability has already been reached without rupture, pregnancy should be allowed to advance to term before operation, but only under the closest possible vigilance. 5. In all cases the appendages from both sides should be removed, providing the condition of the patient will permit of the extension of the operation.

The Local and General Treatment of Gangrenous Wounds and Diseases.—Dr. Bedford Brown, of Alexandria, Va., followed with a paper on this subject. Many years ago, previous to the late war, Dr. Brown determined to institute a series of experiments to ascertain the capability of local and general treatment of all gangrenous wounds and diseases that came under his care, either for their prevention or arrest. The object was to find local agents possessing active properties as stimulants of vital action in the affected parts, also as means of disinfecting and deodorizing gangrenous sloughs, hastening their final separation, and for the establishment of a healthy basis for granulation. In cases coming under his care he found that the old deodorizer failed to accomplish these objects. He then employed a solution, almost saturated, of sulphate of zinc and dilute sulphuric acid as a local application, which seemed to meet all the requirements. The first case in which it was applied was according to the following formula:

℞. Zinci sulphatis..... ʒj.
Aquæ..... Oj.
Acidi sulph. dil..... ʒss.
M.

After the free application of hot water at 110° F., the solution was applied every three hours on bats of raw cotton. In the course of two days the sloughs separated rapidly, leaving a perfectly clean, healthy basis for granulation. This solution evidently possesses active antiseptic properties. It is an admirable deodorizer; it is clean and cleanses the parts effectually. In cases of great loss of sensation in the parts, weak circulation, reduction of vital action, and depressed vitality, he knows no agents better calculated to arouse nervous action and stagnant circulation, for as soon as the living basement is exposed it gives rise to intolerable pain. He has used this solution in all forms of gangrenous wounds and diseases, some limited, others extensive and associated with septicæmia, with benefit.

Dr. Brown cited the history of several cases of different varieties of gangrenous wounds and diseases treated by various methods.

Dr. Henry F. Campbell, of Augusta, Ga., made some impromptu remarks on "Vesico-vaginal Fistulæ."

The Treatment of General Septic Peritonitis, was the subject of a paper read by Dr. W. L. Robinson, of Danville, Va., in which he called attention to those cases which tended, by absence of pain and a seemingly improved condition after chill and fever, to mislead as to the necessity of operating, and instanced two cases of recent date, seen in consultation, in which septic peritonitis and secondary abscess existed in spite of the seemingly favorable condition of the patient. He says that often there is an utter disproportion between the pathological condition and the amount of pain and tenderness, a condition so often seen in puerperal peritonitis. He states that traumatic abdominal injuries, appendicitis, and pelvic inflammations are the chief causes of septic peritonitis, while of course any internal or external influence which produces suppuration may be the indirect cause.

He agrees with Dr. G. Frank Lydston, of Chicago, that in children falls, blows, etc., are the causes generally of peritonitis, and that because of the inability of children in directing attention to the seat of injury we often diagnose the disease too late. Dr. Robinson takes the stand that gonorrhœa is a frequent cause of septic peritonitis, and the reason why it did not always produce it was, that it did not invariably invade the uterus, and even when it entered the tubes the adhesions to the ovary rendered it self-limiting.

He holds that section, irrigation, and drainage is the treatment, and that where adhesions are extensive that salines should follow the operation, in order that the peristaltic action of the bowel would prevent reformation. Cases occur which, when seen by the surgeon, are too prostrated to undergo a complete operation, and the proper plan is to rapidly do what one can by section, irrigation, and drainage. Dr. Robinson instanced a case of recent date in which the patient was saved when seen only *in extremis*. He urges the surgeon to go prepared to resect, anastomose, etc., as complications may indicate; where conditions are diagnosed which will most likely terminate in septic peritonitis, such as recurring appendicitis, that preventive measures should be undertaken; and where great tympanites exists he would adopt Dr. Davis's mode of opening the bowel and flushing it out with hot water.

Dr. John D. S. Davis, of Birmingham, Ala., contributed a paper entitled "The Clinical History of the Episcystic Surgical Fistula, with Cases."

Afternoon Session.

Removal of Stone from Female Bladder through the Urethra, with Cases.—Dr. W. O. Roberts, of Louisville, read a paper on this subject. This paper was devoted simply to his individual experience in the extraction through the urethra of stone from the bladder of the female. The cases thus treated were six in number; the ages of the patients ranged from fifteen to fifty-six years. Four were married, but two only had borne children.

The stones were phosphatic in four cases, uric acid in one, and an incrusted fringed body in another. In one, a very hysterical patient, the stone had for its nucleus a piece of soft wood. In one the patient had a vesico-vaginal fistula which had been closed by an operation some months prior to the occurrence of the symptoms of stone. In another the bladder had been opened by a surgeon in doing an ovariotomy upon the patient, a year before the stone was discovered.

In four of the cases the stones were single, in one there were two, and in one nine. In this case the patient had passed at various times a number of small stones, from two to seven at a given micturition. These stones varied in size from that of a grain of wheat to a grain of coffee. In two years she had collected one hundred and eighty-four stones, a number not representing all she had passed.

The extraction was done in every case under chloroform, the patient being profoundly anæsthetized. The urethral dilatation was begun with forceps, and completed by means of the fingers; the little finger being first introduced, the ring-finger next, and finally the index-finger. The fingers were well oiled. In Case I. the stone was found to be almost an inch and a half in diameter. In Case II. the stone was found in the urethra, and proved to be a piece of soft wood heavily incrusted with urinary salts. In Case III. the stone was spherical, and had a diameter of about one-half inch. In Case IV. the stone was ovoid, its long diameter being an inch, the shorter three-fourths of an inch. In Case V. there were nine stones, the smallest measuring circumambientially two, and two and one-fourth inches; weight, eighty-four grains.

Wet Antiseptic Dressings in Injuries of the Hand, was the title of a paper presented by DR. WILLIAM PERRIN NICOLSON, of Atlanta, Ga. After dwelling upon the importance of the subject, both from the stand-point of the future earning capacity of the patient and the large amount of financial compensation demanded from corporations, he stated that for seven or eight years past he had looked after the surgery of several railroads and manufacturing establishments, and in that time had been called upon to treat more than three hundred hand injuries, representing all grades of injury, from slight contusion to complete destruction of the larger part of the hand. The especial point that was urged in the paper was the doctrine formulated by Verneuil—never to use a scalpel in a hand injury. The old teaching that, when a finger was crushed you should go far enough behind the injury to secure a sound flap and amputate, was pernicious in the extreme, and had cost thousands of fingers that would have been restored to usefulness. Only such parts as were actually destroyed and pulpified should be removed, and all the tissues to come away could be amputated with the scissors. Projecting pieces of bone could be removed with pliers until reduced to the level of the fleshy parts. In compound fractures the parts should be co-aptated as well as possible, and the line of separation be determined by nature, and under strict antiseptic dressings. Such a slough was harmless. Another point to which attention was forcibly called was the utilization of blood-clot in filling up ragged injuries, and by its substitution the restoration of lost parts. When a finger was crushed off, the end should be trimmed with scissors, and the clot utilized in building up a tissue over the bone. In reference to dressings, Dr. Nicolson said that he had tried almost all varieties, and had finally obtained the most satisfactory results from keeping the parts constantly bathed in a non-poisonous antiseptic solution.

In dealing with these wounds they were first cleansed as well as possible, and then bathed in a sublimate solution. Over all wounds a piece of aseptic rubber tissue or oiled silk was placed, then iodoform and sublimate gauze, and finally over all a covering of rubber tissue, into which, at some convenient point, a small opening was made. The patient was then given a bottle of antiseptic solution, to be carried in his pocket if moving about, and instructed to pour, at frequent intervals, enough into this opening to saturate the dressings. He uses almost exclusively listerine, combined with a small amount of carbolic acid, in the proportion of half an ounce of the former and half a drachm of the latter, in a six-ounce mixture. If there was much pain, a small amount of aqueous extract of opium was added. These dressings were not disturbed until the third day, when they were removed under strict antisepsis, to preserve the integrity of the blood-clot. Wet dressings were substituted at the end of about a week by the ordinary antiseptic dressings, kept moist by external covering of rubber tissue. Should sloughing occur, it is kept wet for a longer time with the antiseptic. Under this treatment pain was reduced to the minimum. Suppuration never occurred, and the separation of sloughs was facilitated by the warm moisture.

Uterine Moles and their Treatment, was the subject of a paper read by DR. J. D. WILSON, of Sherman, Tex. In the few cases that had come under his observation, they had been more troublesome and elicited more anxiety than most writers indicate they should, and the hemorrhages in some of the cases were alarming; then too, there were some points noticed in his cases which he had failed to find described in text-books. All authorities seem agreed upon the etiological and pathological view generally taken of it, that it is a blighted or altered conception; the ovum having perished, its coverings or the placenta, if formed when this change takes place, becomes attached to and continues to receive nourishment through the uterine walls, and remains or becomes an organized product until it is thrown off; and this condition is attributed by some to the vitality retained in the villi of the chorion. He had never met with a case that was lying loose in the uterus, but all were more or less adherent to its walls, and most of them to the posterior wall. They had to be taken away piecemeal and the surface well curetted, washed out, and carbolic acid or Churchill's iodine applied to the surface. They all require after-treatment, because all except one case of hydatiform mole had endometritis and endocervicitis; two had severe cervical lacerations and erosions; most of them had a greater flow than usual at the subsequent menstrual periods until the inflammatory condition was relieved; in two cases the general health, while not robust, was fairly good; the others more or less delicate, none of them in perfect health; none had any history of a cancerous cachexia, nor of syphilitic taint; one was tuberculous. His experience had taught him to believe that if these cases do not receive treatment at a proper time there are two grave dangers to be apprehended, viz., hemorrhages, which, if not an immediate cause of death, are capable of leading indirectly to that end, and septic poisoning.

In the treatment, if the cervix is sufficiently dilated and hemorrhage troublesome, the mass should be promptly removed. If this cannot be done, a hot, antiseptic vaginal douche should be given, followed by a careful and efficient tampon, with the internal administration of ergot and anodynes if required, directing quiet, rest, and a simple diet. In from twelve to sixteen hours the tampon should be removed, and the foreign body extracted as completely as practicable; this will require a good stout pair of forceps. He had used the ordinary dressing-forceps and placental forceps for the purpose. An excellent instrument in some cases is Emmett's curette-forceps. The surface should be well curetted with a wire curette, the uterus thoroughly washed out with a hot solution of bichloride of mercury and Squibb's crude carbolic acid, or Churchill's tincture of iodine well applied to the surface. If much bleeding ensues—and this is not usual—the application of persulphate or perchloride of iron gives good results. The patient is put to bed and kept there as long as the indication in each special case may require; she is put upon a tonic treatment and hot vaginal antiseptic washes. In from three to five days the uterus may need curetting again and another intra-uterine douche;

then the application of iodine about twice a week, alternated occasionally, perhaps, with carbolic acid as long as may seem necessary, and the cure, if possible, completed of any uterine disease that may exist. The patient's general health is carefully looked after and her mind tranquillized.

THIRD DAY, THURSDAY, NOVEMBER 13TH—MORNING SESSION.

A Review of the Treatment of Varicocele, with Cases.—DR. G. FRANK LYDSTON, of Chicago, read a very elaborate and lengthy paper on this subject. He said, in discussing the various merits of operative procedures, it is unnecessary to take them up in detail. The *raison d'être* of many specially devised and named operations is apparent only to the operator. For practical purposes the various methods may be divided into (1) acupressure; (2) subcutaneous deligation; (3) open deligation; (4) deligation with resection of veins; (5) deligation with resection of scrotum; (6) resection of the scrotum.

The employment of acupressure, to Dr. Lydston's mind, was an evidence of a lack of faith in modern antiseptics. It reminded him of the Dutchman's method of cutting off his dog's tail, an inch at a time, so that it would not hurt him so much. Gradual obliteration of veins had all the dangers of immediate deligation in a marked degree, and had none of its advantages. The term acupressure covered practically all methods of gradual obliteration of the veins, of which Davat's operation is an illustration. Subcutaneous deligation is not essentially dangerous in skilful hands. Simple as the operation appears, however, accidents have occurred. The operation is done in the dark, and more tissue is included in the ligature than is necessary. Strangulation of tissue is not conducive of safety. Scrotal hæmatocele, phlebitis, septic infection, thrombosis, and embolism are possible. The vas deferens has been included in the ligature. He does not condemn the subcutaneous operation in suitable cases and in skilful hands, but he believes there are better and safer methods on the average. There is little choice between deligation without disturbance of the veins and deligation with resection of the veins, excepting the remotely greater danger of sepsis in the latter. Gould's method of division by cautery he believes to be the most dangerous operation yet devised. The dangers of the open method are in a less degree those of subcutaneous deligation. If open ligation be determined upon, the operation should be done as high up as possible in the straight portion of the veins, and a single ligature applied to the vein. Deligation with resection of the scrotum he considers to be the ideal operation in the majority of cases requiring surgical interference. His plan is as follows: An incision is made parallel with the spermatic cord just below the external ring. This incision should be about one inch in length. The cord is hooked out with an aneurism-needle, the veins separated and tied, the ligature cut through, and the cord dropped. Sutures and antiseptic dressings complete the operation. The scrotum is now amputated by the improved Henry operation. Dr. Lydston uses decalcified bone drainage-tube and juniperized silk ligatures and sutures. Resection of the scrotum he considers the simplest and safest operation for varicoceles of moderate size. In the more marked forms the affection invariably recurs to a greater or less extent. He does not, therefore, consider the so-called Henry operation a radical cure in the true sense of the word. The author reported a large number of cases operated upon by various methods, with the results and, as far as could be learned, the subsequent history of the patient. The author had noticed hydrocele as a result of subcutaneous deligation in two cases, one operated upon by himself, and the other by another surgeon. The doctor reported one very interesting case in which the scrotum was continually bathed in bloody perspiration and in which the seminal ejaculations were heavily tinged with blood.

Dr. Willis F. Westmoreland, of Atlanta, followed with some impromptu remarks on "Morbid Reflex Neuroses."

Silicate of Soda, Some New Methods of Use in Surgery.—DR. GEORGE A. BAXTER, of Chattanooga, read a paper on this subject, in which he said the jacket of baked silicate of soda which he would present to the Association possessed all the qualities to be found in the plaster, firmness and support, and weighs actually one pound and six ounces. It is neater in appearance and finish, can be perforated like leather for ventilation, which plaster cannot. It is even lighter than leather, without its costly process of construction, and has the same advantage over the woven-wire jacket, with the additional advantage over both these latter and all others of this class, that it can be constructed by any surgeon at any time or in any place. Dr. Baxter suspends his patient and puts roughly a plaster jacket around her, and cuts this as soon as it has hardened enough to retain its shape, thereby lessening materially the time of suspension, the most trying ordeal with this or the plaster, and not without its dangers when long continued; binds the cut edges together, where it has been cut down directly in front, with cords and then places a core of paper in the centre. This paper core is used for two reasons: (1) to lighten the cast and take as little plaster as possible, and (2) to dry it the more readily by heating the inside. This done, the plaster is poured around the core and inside the cast, which gives him a mould of the body in extension and counter-extension, exact in every respect. Around this is made the silicate jacket, after the manner of the plaster roller-bandage, weaving one-half inch metal strips in the meshes of the bandage at a distance of four inches apart around the whole cast, an inside lining of a knit shirt having been first placed over the cast. The whole is then placed over a coal-oil stove, and allowed to dry out, which it does in from one-half to two hours or less, especially if the cast has been previously dried. This process of heating not only dries the silicate but bakes it as well, and renders it impervious to the action of water or the perspiration, and gives it sufficient strength to allow of its being perforated for ventilation. It is now cut from the mould with a straight incision down the centre, two pieces of leather, to which button hooks or eyelets have been previously attached, sewed up and down the front on each side, then the whole can be laced up solid or loosened and taken off at will. The necessity of taking off a jacket or leaving it on during the whole course of treatment will, of course, depend upon the character of the disease or injury under treatment.

Surgery of the Gall-bladder was the subject of a paper contributed by DR. EDWIN RICKETTS, of Cincinnati, O., in which he said to Langenbach was due the credit of totally extirpating the gall-bladder, and to J. Marion Sims we owed a debt of gratitude for establishing the operation of cholecystotomy.

Dr. Ricketts reported four cases of gall stones:

CASE I.—Mrs. ——, aged thirty-eight, married, consulted him in 1880 for a tumor in her right side, in the region of the gall-bladder. Said she had passed by the bowel, following a severe attack of hepatic colic, a number of gall-stones. She was emaciated and suffered from what she claimed was neuralgia of the stomach. She was slightly jaundiced and bowels constipated. Upon examination of the abdomen the tumor was well marked and nodulated, above which was the liver surface, smooth. He made the diagnosis of gall-stone, and urged an operation. The patient's physician, however, urged the expectant plan of treatment, which was accepted by the patient. She then went to the country, and in less than three months had an attack of hepatic colic, followed by peritonitis, dying inside of three days.

CASE II.—Ellen ——, colored, aged thirty, consulted him for a markedly distended gall-bladder which made its appearance after a hard day's work over the wash-tub. She had been sick for ten days with fever, temperature reaching 103° F., rapid pulse, clayish stools, with occa-

sional attacks of hepatic colic, though not severe. He opened the gall-bladder, turning out one pint of fluid which consisted of bile, mucus, and pus, stitching the gall-bladder up against the peritoneum. After three days catarrhal plugs were washed out of the common duct through the abdominal incision, in which had been deposited a glass drainage-tube. The fistulous tract is still open, discharging periodically, but with no bad results to the patient.

CASE III.—A diagnosis of cancer of the liver was made by the attending physician. The gall-bladder was opened, and the stone turned out weighed one hundred and twenty-eight grains, and the common duct was filled with catarrhal deposits.

CASE IV.—After incising the gall-bladder there escaped first about one drachm of pus, after which Dr. Ricketts turned out twenty-eight stones. A diagnosis of cancer of the liver in this case was made by the attending physicians.

Dr. Hunter P. Cooper, of Atlanta, Ga., reported a case of "Fracture of the Femur Due to Fragility."

Dr. George H. Noble, of Atlanta, followed with an illustrative paper on "Procidentia Uteri."

AFTERNOON SESSION.

Rectal Medication was the subject of a paper read by DR. W. HAMPTON CALDWELL, of Lexington, Ky., in which he said that several years ago he was convinced of the utility and safety of rectal administration of medicine, and had ever since regarded it as a most important plan of treatment. Since we accept the theory of the local origin or manifestation of the majority of diseases, this idea of rectal administration of medicine was more easily accepted as scientific in its applications than at any time heretofore. The rectal suppository, consisting of cocoa butter incorporated with the various therapeutical agents, affords the most efficient and pleasant mode of administration in our possession. Rectal suppositories satisfy all requirements as a local or constitutional remedy; they are neat, convenient, and in almost every instance preferred by the patient to the administration of the same drug by the mouth. In the administration of anodynes, it is certainly a superior method of administration to all others, as the sensitive stomach is no longer a barrier or excuse in the administration of even the most disagreeable medical agent, for we well know in many instances that this organ is either tolerant to opiates or the patient has an invincible objection to taking them, the impossibilities of the rectal administration being thrown off is one great advantage over all other methods of administration. The effects of rectal medication embrace a wide range of actions, including anodyne, antiseptic, alterant, and astringent. In severe pain they certainly afford the best and safest source by which our patient's suffering can be relieved, as the action upon the rectal surface of a diffusible anodyne is quite rapid, and produces an effect as soon as when administered by the stomach. In all inflammatory or painful affections of the abdominal or pelvic organs, this plan of administration has succeeded better than all others with the author.

DR. THAD. A. REAMY, of Cincinnati, O., reported a case in which he removed a stone weighing 365 grains, by vaginal cystotomy, from the bladder of a child six years of age, with injury of the ureter. Operations done for closing the bladder were difficult, but ultimately successful. He exhibited the stone, and made some comments on the case.

He felt, after the stone was removed, that it would have been better to have made supra-pubic cystotomy. Had he known the size of the stone, he would have probably done that operation. But in view of the fact that it was partly encysted, that the bladder walls were much inflamed and thickened, also the fact that in the child the parietal peritoneum dips much lower down in front of the bladder than in the adult, it became a serious question whether this course would have been better than the one pursued.

It was not clear whether the ureter was damaged in the removal of the stone, or was exposed by the sloughing which occurred much later on. He was inclined to favor the former view; and that the discharge of urine into the tissues of the bladder wall, in the line of suture, was to no small degree responsible for some of the failures in closing the bladder. However, until the last operation the most critical examination failed to discover the ureter.

Though Parvin, Campbell, and others had turned an exposed ureter into the bladder, the speaker was not aware that it had heretofore been done in a subject so young. The vagina being so small, rendered the manipulation difficult in the extreme.

The Surgical Treatment of Empyema, was the title of a paper read by DR. JAMES A. GOGGANS, of Alexandria City, Ala. He said during the last eighteen months he had treated six cases of empyema which developed in the wake of pneumonia, all of which had made perfect recoveries. These patients varied in age from three to thirty-five years. Surgical treatment was the one which had been the most successfully employed. Spontaneous cures he said were rare—so rare that surgical interference was the rule. There were many methods of operating for the removal of pus from the pleural cavity, but they may be classified under two general headings: 1. The closed method, which consists in removing the pus by simple puncture with some kind of trocar or modern aspirator, and allowing the puncture to heal at once. 2. The open method, which consists in making an incision more or less free, with the introduction of some kind of drainage-tube to maintain the perfect evacuation of the fluid, and admit of medicated washings, and to promote free ingress and egress of air that has been passed through an antiseptic dressing. The surgical treatment then being an absolute necessity, we cannot over-estimate the importance of making the diagnosis certain by resorting to exploratory puncture with the hypodermic syringe. We can assure the patient and friends that no evil results can come from this procedure, and that the prognosis positively depends upon this means of settling the diagnosis.

Officers for 1891.—*President*—Dr. L. S. McMurtry, of Louisville, Ky.; *First Vice-President*—Dr. McF. Gaston, of Atlanta, Ga.; *Second Vice-President*—Dr. J. T. Wilson, of Sherman, Tex.; *Secretary*—Dr. W. E. B. Davis, of Birmingham, Ala.; *Treasurer*—Dr. Hardin P. Cochrane, of Birmingham, Ala.

Place of meeting, Richmond, Va., second Tuesday in November, 1891.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, December 4, 1890.

Benefactors.—On recommendation of the Council the following were elected Benefactors in recognition of their services to the Academy: D. Willis James, J. Pierpont Morgan, Edgar Starr, Charles J. Starr, William H. S. Wood, and Mrs. Eliza C. Farnham.

The Treasurer of the Board of Trustees, Dr. F. A. Castle, sent in his resignation of the office, other duties compelling him to take this step. The resignation was accepted, and a vote of thanks passed for his valuable services.

Nominations. — *President*, Dr. A. L. Loomis; *Vice-Presidents*, Drs. V. P. Gibney and E. L. Keyes; *Trustee*, Dr. F. A. Castle; *Treasurer of the Trustees*, Drs. A. S. Hunter, O. B. Douglas, and W. F. Cushman; *Committee on Admission*, Drs. D. Bryson Delavan, C. C. Rice; *Committee on Library*, Drs. John S. Warren, H. C. Coe, C. A. Powers, C. C. Rice, and C. L. Dana.

Amendments to the Constitution and By-Laws.—The amendments proposed by the Council were adopted.

Life Saving Methods in Still-Births.—DR. W. T.

Lusk read the scientific paper of the evening, which bore this title. The chief object in presenting the paper was to impress the need of persistent and intelligent application of known methods of procedure. These methods related to the clearing of the respiratory passages of mucus, etc., introducing air into the lungs by catheter, Sylvester's or Schultze's methods, aiding circulation by Schultze's method especially, and stimulating the respiratory centre by the means just mentioned, and also by the application alternately of warm and cold water. It was the manner of applying these well-known means which was all important. By their intelligent use, almost hopeless cases might finally be saved, while by their misuse life had sometimes been needlessly sacrificed.

The following was an illustrative case of successful efforts to save a still-birth: A few weeks ago he was called to the bedside of a primipara in labor. The child's head was in the pelvis, but for the past two hours had made no progress. Extraction of the head by the forceps was easily accomplished. The cord was tight around the neck. This he divided by the scissors, but when the child was extracted respiration had ceased; it was in a state of asphyxia. It was placed upon a table wrapped in warm cloths. The mucus was expelled from the posterior fauces. A No. 8 English catheter was passed into the trachea, and mucus was removed by suction. The quantity of the mucus in the bronchial tubes was large, and the catheter had to be introduced many times. Direct inflation was then practised. In ten minutes heart movements were observed, but they ceased again, and the steps already mentioned had to be repeated. But by perseverance in the treatment they at last observed a little color on the surface of the child. It was then immersed in warm water, lifted out, and cool water sprinkled on the epigastrium. Schultze's method was then practised, followed by Sylvester's. In employing the latter it was necessary to pull the tongue forward, and depress the base. It was not until nearly three hours of constant use of warm baths and cold sprinkling of the surface, alternate resort to Schultze's and Sylvester's methods that respiratory movements were finally established. The next day the child had cramps, but with constant medical attention these ceased after twenty-four hours. It was now in robust health and the joy of a family.

The means for exciting spontaneous respiratory movements should not be selected by divining-rod methods, but by knowledge of physiological law. It was known that during the period of gestation the child remained in a state of apnœa, the respiratory function being performed by the placenta. As soon as the child was born in normal cases the thorax expanded, the diaphragm contracted, and pulmonary respiration was established. The premature establishment of pulmonary respiration while the child was still in the passages was followed by asphyxia and was the usual cause of still-births. Experiments on animals had shown that if, during uterine gestation, placental circulation were suspended the accumulation of certain materials in the blood was capable of exciting the respiratory centre in the medulla oblongata without the aid of peripheral stimuli, while the latter were capable of exciting the respiratory act before the internal stimuli had increased sufficiently to induce independent action.

At this point the author described the fœtal circulation by diagram.

The conditions which prevailed in asphyxia were somewhat different. When the child breathed in utero (and in nearly all cases of asphyxia after birth it had breathed in utero), we might say that the intra-uterine respiration was due either to tetanic contractions of the uterus (which was not uncommon at a time when ergot was given frequently before detachment of the placenta), to premature death of the mother, and, most common of all, to pressure upon the cord. Pressure upon the cord, cutting off the placental circulation, caused the child, as he had already stated, to breathe in utero. The amniotic fluid, meconium, epithelium, and mucus were drawn into the respiratory passages, first into the nose and throat, and, where the inspirations had been active, on down into the trachea and bronchi. There was at the same time increased tension upon the blood-vessels and right side of the heart. As no air reached the lungs the medulla lost its irritability and the respirations were suspended. At the time respirations were suspended the vessels and the heart were found enormously distended with blood. The lungs were also filled with blood, and when respiration had been well marked, there was pulmonary congestion, pleural ecchymoses, etc.

If the pressure on the cord were only temporary, the fœtal circulation would again resume its way and apnœa return.

In still-births the prognosis depended upon the degree of asphyxia. In milder cases the muscular tone was preserved, the head did not drop, the skin was dusky red or cyanotic, the conjunctivæ were congested, the umbilical vessels distended, reflex movements could be excited by irritation, etc. In these cases respiration often returned. In more advanced cases the head drooped, there was loss of muscular tone, the heart-beats were feeble and infrequent, the umbilical vessels nearly empty, the cutaneous circulation had disappeared, the surface was pale and cold, if respirations occurred they were very feeble, and were not associated with movements of the muscles of the face. The first sign of recovery was refilling of the cutaneous capillaries and regaining of muscular tonicity.

The indications in all cases were to clear out the air-passages, restore the irritability of the medulla, increase the force of the heart contractions, relieve the plethora of the heart and blood-channels, expand the thorax. Where muscular tonicity was yet present these conditions were easily fulfilled. But long-continued and careful resort to methods already suggested was called for in the second class of cases.

The author here demonstrated Schultze's method upon the infant cadaver. With the infant's back toward him, the operator placed his thumbs upon the head, the index fingers in the arm-pits, the hands diagonally across the back, the child's body hanging. Thus pulling up on the thoracic muscles, the upper ribs were drawn upward while the attachments of the abdominal muscles drew the lower ribs downward, the diaphragm descended, and in this way the cavity of the chest was expanded to the greatest degree, and inspiration was favored. Then by extending the hands horizontally, and giving a light turn forward and upward, bending the child forward, the abdominal viscera pushed up the diaphragm, the ribs were brought in close contact with one another, and the most efficient form of expiration was produced. There was, perhaps, no other way in which the mucosities in the lungs could be so efficiently expelled. In order to completely ventilate the lungs, the child was swung over between the hands a few turns before being laid away. But the greatest advantage was derived from the manner in which the congested heart cavities and vessels of the thorax were unloaded by these movements. Where there was deep asphyxia, all movements to restore the child should involve a minimum degree of disturbance, otherwise the heart would cease to act, and all signs of life become extinct. He had known this to occur in several cases. But there was no danger involved in aspirating the lungs through a hard rubber catheter.

Dr. W. M. Polk said he had little to add further than to indorse the points made in the paper. He thought it important to distinguish different degrees of asphyxia in treatment. For his own part, in asphyxia of the second degree, described in the paper, he always proceeded to use the catheter, feeling that the child had practically been drowned within the uterus or vagina. He seldom found it necessary to resort to any other procedure than this, except to practise Schultze's method in order to favor circulation. He had repeatedly been able to bring infants to life in which there was but a very slight heart-beat, by the use of insufflation through a rubber catheter.

In one instance of serious cerebral compression following the use of Tarnier's forceps, making it undesirable to save life, he was able by use of insufflation through a catheter to cause arterial color to alternate with venous hue during an hour and a half, the child in the meantime making no voluntary efforts at respiration.

DR. H. J. GARRIGUES felt the importance of impressing upon every obstetrician the need of keeping up hope in trying to restore still-births. We should always retain hope as long as the heart continued to beat. And there were cases on record in which the accoucheur had restored life when the heart could neither be felt nor heard. He had himself had one case in which the first respiratory movement took place two hours and a half after birth. But he did not in that instance succeed in saving life permanently, the child living only about seven hours. This, however, would have been of great importance had the question of inheritance come up. According to the English common law, any sign of life whatever allowed property to be transmitted through the child.

In the first stage of asphyxia, he had many times resorted to Schultze's method successfully, and considered it a very rational procedure. If there were fracture of the collar bone, one of the other methods would be preferable. He placed in the category of irritants to the skin, faradic electricity. This he thought was useful, but did not approve of placing the pole over the phrenic nerve, believing it would not excite to action the diaphragm, and if it did penetrate that deeply it would be likely also to affect the pneumogastric and interfere with respiration. In catheterization, the best instrument was the English gum catheter, which could be moulded into any desired shape by dipping it into warm water.

Some Precautions.—DR. R. A. MURRAY thought there was no method more powerful in relieving congestion of the heart and in aiding circulation than that of allowing some blood to escape on detaching the cord. But where the second degree of asphyxia was present, he proceeded at once to insufflation. The physician was apt not to clear the lungs of mucus as freely as he should, and was also likely to distend the child's lungs too much and too often. Twenty times a minute was often enough. The same precaution was necessary in the use of Sylvester's method. He also applied a stimulant to the rectum, say a small amount of whiskey, this part of the body being, as all knew, the last to come under the influence of anæsthetics and the first to recover sensation. The amount of whiskey employed should not be so great as to do injury if it were to enter the circulation. He believed many infants were killed by the improper use of cold and heat applied to the surface.

A New Form of Artificial Respiration.—DR. A. S. HUNTER thought the ideal method of artificial respiration was neither the Sylvester nor the Schultze. An objection to both was that the skin was exposed too long to the air, which depressed the vitality. He sat the child in warm water, from 100° to 110° F., placed his right hand on its back, the head falling between his thumb and finger; then with the left hand he raised the arms over the head, which extended and distended the thorax, the ribs being drawn up, the diaphragm being drawn down by the bodily weight. Having cleared the air-passages, the physician could bend forward and dilate the lungs by blowing into the mouth. In that position the air did not enter the stomach, for the head being thrown back, the cervical vertebræ pressed forward, closing the œsophagus while the larynx kept the passage to the lungs open. By this method he had obtained some remarkable results. It was very important to keep up the vital heat, especially if an hour or more were required in restoring life.

Asphyxia the Cause of Epilepsy and Idiocy.—DR. A. JACOBI was prompted through Dr. Polk's remark that it was hardly desirable to save life in a certain case, to say that he knew of no greater danger for one's future than asphyxia at birth. A child's future depended a great deal upon the condition of its brain, and there was no organ in the baby's body so much exposed to damage in asphyxia as was its brain. The blood-vessels were very thin, hardly formed, so to speak; hemorrhages took place very easily, and were very likely to be large, for the further reason that the blood was very thin, containing at this age very little fibrin. If the little one could die at once, it would often be better for it, since to live might mean hematoma, meningitis, encephalitis, epilepsy, idiocy. He thought a large number of cases of epilepsy and idiocy in the families of the well-to-do had this origin. He therefore insisted that it was the obstetrician's duty, when he found the child on birth to be asphyxiated, to attend to it at once and leave the mother for a time to the nurse or assistant. The asphyxia should be cut as short as possible for the sake of the child's future. The subject dealt with by the paper was of extreme importance.

DR. J. H. DEW said he had practised a method somewhat like Schultze's the past fifteen years. It was simpler, perhaps. The neck was held between the thumb and forefinger of the left hand, the head falling forward, the shoulders resting in the palm; then, with the right hand he seized the legs, bringing them up and pressing the body against the chest, which expelled mucus and favored expiration. The reverse action favored inhalation.

One Thousand Dollars for the Library.—Dr. E. L. Keyes presented a check for a thousand dollars to the library, with the condition that the name of the donor should not be made known. The gift was accepted with thanks.

Newspaper Notoriety.—DR. A. JACOBI made a statement with regard to the notoriety which he was gaining the past few days in the daily papers, owing to the fact that he was to have received some of Koch's lymph. For some unaccountable reason the lymph had not come to hand, although it had been sent from Berlin, but the daily press had said a great deal more about the matter than he knew himself, and he took this opportunity for setting himself aright before his medical brethren.

The Aldermen and Garbage.—DR. JANES called attention to the fact that the aldermen had recently passed an ordinance, requiring that hereafter receptacles for ashes and garbage be placed on the sidewalk, prior to removal by the city, and he requested the passage of a resolution declaring this to be a step backward in sanitary reform, and that a committee be appointed to wait on the Mayor, asking his veto. The resolution was adopted. and Drs. Jacobus, Crampton, and Hadden were appointed on the committee.

Correspondence.

MORE CONCERNING KOCH'S METHODS OF INOCULATION.

THE RESULTS OF THE TREATMENT OF INCIPIENT AND ADVANCED PHTHISIS, TUBERCULOUS GLANDS, AND TUBERCULOUS DISEASE OF BONES—THE INOCULATION AS A MEANS OF DIAGNOSIS—THE SCARCITY OF THE LYMPH—THE CROWDS OF MEDICAL MEN IN BERLIN.

[By the kindness of Dr. A. Rupp, of this city, we are enabled to publish the following letter, sent to him by Dr. C. Graefe, of Sandusky, O., who is now in Berlin.—ED.]

BERLIN, November 20, 1890.

DEAR DOCTOR: Since the publication of Professor Koch's paper the throng of patients and medical men has been so constantly increasing that now the hospitals and clinics where Koch's specific is used are so crowded with those afflicted with tuberculosis that other patients have to give way, and the visiting doctors crowd the clinics to such an extent that students cannot get their seats. Koch himself, after announcing that he was compelled to make his discoveries known somewhat prematurely on account of the false impressions created by newspaper articles. has withdrawn into his laboratory to continue his

studies, leaving the preparation of the remedy in the hands of Drs. Pfuh and Libbertz, and the clinical experiments to Drs. von Bergmann, Fräntzel, Gerhardt, Cornet, and Levy. These gentlemen are the only ones who at present have any of the lymph, though it is said small quantities have been sent to Rome, Davos, Vienna, and London. Professor Koch, when he announced in his paper that small quantities could be obtained by physicians, probably had no idea of what the demand would be, for none can be obtained now, and the prospect for all, except large institutions, is very poor, as the present demands would take up the product of months with the present facilities and at the rate it is being prepared.

There is considerable speculation as to what the brownish liquid, smelling of carbolic acid, really is, and it has been thought to be toxalbumin, cyanide of gold or silver, a culture of the bacillus, or a ferment produced by such culture. It certainly takes some time to make it, will keep if kept corked in concentrated solution, turns white by the addition of pure alcohol, will bear a certain amount of heating, and in the diluted solution spoils by the formation of bacteria in it. It is diluted with boiled sterilized water, or a one per cent. solution of carbolic acid before using, and is usually injected between the scapulæ. Professor Koch has invented a new syringe, composed of the usual needle and glass cylinder, but the piston is replaced by a rubber ball, which, being squeezed, forces the liquid out by the pressure of the air. He recommends that the cylinder be washed in alcohol after each injection, and the advantages are that it is so easily taken to pieces that it can readily be sterilized and cleaned, so avoiding the formation of abscesses.

Having seen quite a large series of cases and the records of others, I can testify to the results of the application of the remedy as given by Koch. Where there is tuberculosis, in from four to six hours there is a rise of temperature, reaching, in some of the cases at Professor Bergmann's clinic, the height of 40.9 C., frequently accompanied by a chill, and sometimes by delirium. This gradually falls in from twenty-four to thirty-six hours, and the affected parts are congested, sore, and in lupus there is a serous exudation which dries into crusts. Sometimes the appearance becomes almost erysipelatous, and there is some necrosis of the skin, though usually the small tubercular spots are gone when the crusts come off, leaving a comparatively smooth surface. Professor Fräntzel reports, in four cases of advanced tuberculosis of the lungs, that there was the usual rise of temperature after the injection, but otherwise the cases ran the usual course, and the post-mortems revealed nothing special, except thick, slimy masses in the cavities.

The second series of eight cases were in the first stages, with induration of the apices of the lungs, and showed bacilli upon examination of the sputum. The patients were treated daily for from fifteen to fifty-six days, had the usual fever after the injections, but the night-sweats left them, the cough grew less, and they gained in weight, while bacilli could not be detected in the sputum after a time. Dr. Levy has been using the lymph since September 22d, on lupus and bone troubles, and Drs. Koehler and Westphal report a large series of surgical cases where they have used the remedy. I have seen about twenty cases of lupus during the past week, some of which have not been published. I to-day saw a case of lupus, at Dr. Lazzar's clinic, where a carcinoma had formed in the scar, and the lupus was affected in the usual manner (infiltration, exudation of serum, etc.), while the cancerous portion was not affected. Professor von Bergmann showed a similar case last week, and in two cases where there was some doubt as to the diagnosis of a tumor of the cheek and a laryngeal trouble, there was no reaction, and the tumor was probably syphilitic and the laryngeal trouble cancerous.

Drs. Koehler and Westphal made the injection in four cases of ordinary scars after burns, cuts, and ulcers, and there was no reaction in these cases. Professor von Bergmann did the same with a boy with scrofulous glands of long standing, and there was no reaction, while in four cases of the same trouble there was a decided reaction and the treatment was continued.

The fever usually gradually decreases after the first three or four injections, and after a varying time tolerance is established, which is considered as the sign that the tubercles are destroyed. But the cases have not been under observation long enough to show that after a short time the reaction will not take place again. In Professor Bergmann's cases of bone trouble, abscesses, zonitis, coxitis, etc., the febrile reaction is accompanied with much pain in the affected parts and joints, which disappears more or less with the fever; and he will wait until the cases do not react after the injection before applying the usual plaster, fixation splints, etc.

The whole process is still in the experimental stage, and time alone will prove its true value. Koch is very modest in his claims for the remedy, and the most exaggerated reports of the cures effected by it fill the newspapers. As there is no lymph to be had, the process of its manufacture a secret, and the method of application so simple, it will scarcely pay to come to Berlin for the present, and many who came have gone away.

There are a number of Americans on the ground, and they are not the least active and interested of the visitors.

OUR PARIS LETTER.

(From a Special Correspondent.)

KOCH'S CONSUMPTION CURE IN FRANCE—INOCULATIONS MADE BY DR. SCHAFIER—PROFESSOR RICHET'S EXPERIMENTS ON THE PROPHYLAXIS OF TUBERCULOSIS—THE FRENCH REASONS FOR THE DEPOPULATION OF FRANCE.

PARIS, November 29, 1890.

IN Paris, as elsewhere, the subject that absorbs the interest both of the profession and the laity is Koch's alleged discovery of a "consumption-cure." The lay journals of all shades of opinion vie with each other in treating their readers to more or less sensational details of, and speculations on, the new treatment.

Much curiosity is, of course, manifested in the probable composition of the famous "lymph." The *Bulletin Médical* opines that the difficulty of its fabrication in adequate quantities points to the toxines secreted by the bacillus as its source, some other agent being added to insure stability. The general attitude of the people who proudly claim as their brothers Pasteur, Villemin, and Bouchard, is one of hopeful expectancy, untainted by any feeling of international jealousy. The fact that the deaths from phthisis pulmonalis alone in Paris average two hundred a week, naturally disposes us to welcome any cure for this fell disease, irrespective of the nationality of the happy discoverer.

Yesterday, at the St. Louis Hospital, Dr. Schafier, who has just brought from Berlin two small bottles of Koch's lymph, inoculated, for the first time in Paris, five patients (2 cases of tuberculosis of thigh, 2 of elbow, and 1 of foot), and this morning he was to further inoculate several cases of lupus. Professor Cornil has received two phials of lymph, each containing two grammes.

The experiments of Professor Ch. Richet on the prophylaxis of tuberculosis—experiments the results of which were communicated on the 15th instant to the Société de Biologie—are interesting at the present juncture. Having previously proved that the intraperitoneal transfusion of dog's blood into rabbits prerendered, experimentally, tuberculous, retards, without arresting, the evolution of tuberculosis, he now announces that, in collaboration with M. Héricourt, he has succeeded in rendering rabbits refractory to the invasion of the bacillus.

In April last he vaccinated 4 rabbits with a culture of tuberculous virus, attenuated by heat. He then inoculated them, together with 20 normal rabbits, with a very

virulent culture. Sixteen of the 20 normal rabbits died, while of the 4 vaccinated animals 3 are still alive and well, and 1 succumbed to spinal tuberculosis. Pursuing their researches in the same promising direction, MM. Richet and Héricourt, having inoculated a dog with 50 c.c. of extremely virulent bacillus culture, injected into the peritoneal cavity of 3 rabbits 150 c.c. of the dog's blood. (The dog seemed to suffer but little inconvenience from the inoculation; after being sacrificed the only morbid appearances detected were the presence of a few bacilli in the spleen). These 3 rabbits, subsequently inoculated with tuberculous virus, are still living, and have increased in weight, while of 3 "witness" rabbits, inoculated without having received any of the dog's blood, 2 died of tuberculosis, and 1 is in a dying condition. The value of these experiments is, unfortunately, considerably diminished by the fact that the cultures employed were derived not from man, but from birds.

Closely allied to the question of tuberculosis as a cause of high mortality in this country is that of the so-called "depopulation of France." That the population of France increases in but disappointing proportions is a melancholy fact; but when it comes to explaining this phenomenon and devising means to counteract it, "doctors differ" considerably. Following MM. Lagneau, Javal, Le Fort, and Brouardel, M. Hardy (Acad. de Méd., 18th inst.) ascribes the infecundity of his compatriots to the following influences: Racial peculiarities; a high state of civilization; easy circumstances; immigration into towns.

EXPERIMENTS WITH KOCH'S LYMPH IN LONDON.

Our London correspondent writes: The cry of the profession at present is the same as that of the Parisians just before the Franco-German war, viz., *à Berlin.* Berlin is, indeed, just now the centre of medical interest and many medical men from this country have proceeded thither in hot haste (somewhat tempered, at the present moment, by the sudden severe frost) to learn further details of Dr. Koch's method than they can gather from the public prints. A few experimental injections have been already made in London. Next week two public demonstrations are to be given, of which I shall hope to give some account in my next communication.

THE CARE OF THE PRIVATE INSANE OF NEW YORK.

To the Editor of the Medical Record.

Sir: In an editorial of the Medical Record appears an article entitled "The Care of the Private Insane;" issue of November 29, 1890.

I think the editor gives a wrong impression to his readers; also does a great injustice to the Lunacy Commission of this State.

It would appear from reading this article that the Commission had made no provision for that class of private insane patients who cannot afford to pay the rates of the private asylums.

The order of the Lunacy Commission, passed September 2, 1890, states as follows, in substance, that under peculiarly afflictive circumstances the Commission will grant an order for such patient to be admitted to a State asylum. This is a wise provision, and the Commission ought certainly to have credit for making such provision.

They also suggest that the State take a hand in the private asylum business, by creating extra asylums for the care of this class of cases.

I consider that the State should have just as good a right to build and operate a railroad, a hotel, or a medical journal (for physicians who cannot afford to buy a medical newspaper), and enter into competition with private individuals and private corporations generally.

The managers of private asylums are as heavily taxed as any other private enterprise, and ought to have a chance to make a living, also to raise the standard of private asylums as high as possible.

The class of private insane who cannot afford to pay our rates will be taken care of by the Lunacy Commission, who have shown themselves equal to the occasion in every case. Respectfully,

R. C. F. Combes, M.D.

[The editorial in question was written advisedly, and our contributor has not given any facts to disprove our position. The present provision for the private insane in the State asylums amounts to nothing. We were speaking of that class of patients who cannot pay for the accommodations in private asylums, and who are practically debarred by the present law from paying the moderate rates in our State Asylums.—Ed.]

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 30 to December 6, 1890.

Swift, Eugene L., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, relieved from further duty and station at Fort McDowell, Ariz. Ter., and assigned to Fort Thomas, Ariz. Ter., where he is now on temporary duty. S. O. 282, par. 16, A. G. O., Washington, D. C., December 3, 1890.

Pilcher, James E., Captain and Assistant Surgeon, now on leave of absence. By direction of the Secretary of War, will report in person to the Commanding General, Division of the Atlantic, for temporary duty at Fort Columbus, New York Harbor, during the absence on leave of Captain William E. Hopkins, Assistant Surgeon. S. O. 278, par. 3, A. G. O., Washington, D. C., November 28, 1890.

Hopkins, William E., Captain and Assistant Surgeon. By direction of the Secretary of War, granted leave of absence for six months. S. O. 278, par. 2, A. G. O., Washington, D. C., November 28, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending December 6, 1890.

Atlee, L. W., Assistant Surgeon. Ordered to examination, preliminary to promotion.

Martin, H. M., Surgeon. Placed on Retired List, December 4, 1890.

Alfred, A. R., Assistant Surgeon. Ordered to the Naval Hospital, Norfolk, Va.

Whitfield, J. M., Assistant Surgeon. Detached from Hospital, Norfolk, and ordered to the Chicago.

McCormick, A. M. D., Assistant Surgeon. Detached from the Chicago and wait orders.

Keeney, J. F., Assistant Surgeon. Ordered to the Minnesota.

Harris, H. N. T., Assistant Surgeon. Detached from the Minnesota, and wait orders.

Non-pyæmic Abscesses of Liver.—Dr. Robert W. Johnson, of Baltimore, Md., writes: "Permit me to correct an error in your report of my paper on 'Surgical Treatment of Non-pyæmic Abscess of the Liver,' published in your edition of November 29, 1890, in which you say, I 'principally advocated aspiration in even the smallest abscesses, as opposed to incision.' On the contrary I advocated incision, in two stages, in non pyæmic hepatic abscess after the diagnosis has been made sure with the aspirator."

SUPPLEMENT TO MEDICAL RECORD,

DECEMBER 13, 1890.

THE INOCULATION METHOD OF TREATING TUBERCULOUS DISEASE.

By PROFESSOR DR. ROBERT KOCH,

BERLIN.

Introduction.

In an address delivered before the International Medical Congress I mentioned a remedy which conferred on the animals experimented on an immunity against inoculation with the tubercle bacillus, and which arrests tuberculous disease. Investigations have now been carried out on human patients, and these form the subject of the following observations.

It was originally my intention to complete the research, and especially to gain sufficient experience regarding the application of the remedy in practice, and its production on a large scale, before publishing anything on the subject. But, in spite of all precautions, too many accounts have reached the public, and that in an exaggerated and distorted form, so that it seems imperative, in order to prevent all false impressions, to give at once a review of the position of the subject at the present stage of the inquiry. It is true that this review can, under these circumstances, be only brief, and must leave open many important questions.

The investigations have been carried on under my direction by Dr. A. Libbertz and Stabsarzt Dr. E. Pfuhl, and are still in progress. Patients were placed at my disposal by Professor Brieger from his Poliklinik, Dr. W. Levy from his private surgical clinic, Geheimrath Dr. Fräntzel and Oberstabsarzt Köhler from the Charité Hospital, and Geheimrath v. Bergmann from the Surgical Clinic of the University. To all these gentlemen, and to their assistants, I wish here to express my deep-felt thanks for the active interest which they took in the matter, and for their self-sacrificing readiness to help me. Without this many-sided co operation it would not have been possible to have pushed this difficult and responsible research so far forward in a few months.

Nature and Physical Characters of the Remedy.[1]

As regards the origin and the preparation of the remedy I am unable to make any statement, as my research is not yet concluded; I reserve this for a future communication. The remedy is a brownish transparent liquid, which does not require special care to prevent decomposition. For use this fluid must be more or less diluted, and the dilutions are liable to decomposition if prepared with distilled water; bacterial growths soon develop in them, they become turbid, and are then unfit for use. To prevent this the diluted liquid must be sterilized by heat and preserved under a cotton-wool stopper; or more conveniently prepared with a half per cent. solution of phenol.

Manner of Using the Remedy.

It would seem, however, that the effect is weakened both by frequent heating and by mixture with phenol solution, and I have therefore always made use of freshly prepared solutions. Introduced into the stomach the remedy has no effect; in order to obtain a reliable effect it must be injected subcutaneously. For this purpose we have used exclusively the small syringe suggested by me for bacteriological work; it is furnished with a small india-rubber ball, and has no piston. This syringe can easily be kept aseptic by absolute alcohol, and to this we attribute the fact that not a single abscess has been observed in the course of more than a thousand subcutaneous injections. The place chosen for the injection—after several trials of other places—was the skin of the back between the shoulder-blades and the lumbar region, because here the injection led to the least local reaction—generally none at all—and was almost painless.

Effect of Injections in Healthy Individuals.

As regards the effect of the remedy on the human patient, it was clear from the beginning of the research that in one very important point the human being reacts to the remedy differently from the animal generally used in experiments—the guinea-pig—a new proof for the experimenter of the all-important law that experiment on animals is not conclusive for the human being; for the human patient proved extraordinarily more sensitive than the guinea-pig as regards the effect of the remedy. A healthy guinea-pig will bear two cubic centimetres, and even more, of the liquid injected subcutaneously without being sensibly affected; but in the case of a full-grown healthy

[1] Doctors wishing to make investigations with the remedy at present can obtain it from Dr. A. Libbertz, Lueneburger Strasse, 28, Berlin, N. W., who has undertaken the preparation of the remedy, with my own and Dr. Pfuhl's co-operation. But I must remark that the quantity prepared at present is but small, and that larger quantities will not be obtainable for some weeks.

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man, 0.25 cubic centimetre suffices to produce an intense effect. Calculated by body weight, the 1,500th part of the quantity which has no appreciable effect on the guinea-pig acts powerfully on the human being. The symptoms arising from an injection of 0.25 cubic centimetre I have observed after an injection made in my own upper arm. They were briefly as follows: Three or four hours after the injection there came on pain in the limbs, fatigue, inclination to cough, difficulty in breathing, which speedily increased. In the fifth hour an unusually violent attack of ague followed, which lasted almost an hour. At the same time there was sickness, vomiting, and rise of body temperature up to 39.6° C. After twelve hours all these symptoms abated. The temperature fell, until next day it was normal, and a feeling of fatigue and pain in the limbs continued for a few days, and for exactly the same period of time the site of injection remained slightly painful and red. The lowest limit of the effect of the remedy for a healthy human being is about 0.01 cubic centimetre (equal to 1 cubic centimetre of the hundredth solution), as has been proved by numerous experiments. When this dose was used, reaction in most people showed itself only by slight pains in the limbs and transient fatigue. A few showed a slight rise of temperature up to about 38° C. Although the dosage of the remedy shows a great difference between animals and human beings—calculated by body weight—in some other qualities there is much similarity between them. The most important of these qualities is the specific action of the remedy on tuberculous processes of whatever kind.

The Specific Action on Tuberculous Processes.

I will not here describe this action as regards animals used for experiment, but I will at once turn to its extraordinary action on tuberculous human beings. The healthy human being reacts either not at all or scarcely at all—as we have seen when 0.01 cubic centimetre is used. The same holds good with regard to patients suffering from diseases other than tuberculosis, as repeated experiments have proved. But the case is very different when the disease is tuberculosis; the same dose of 0.01 cubic centimetre, injected subcutaneously into the tuberculous patient, caused a severe general reaction, as well as a local one. (I gave children aged from two to five years, one-tenth of this dose, that is to say, 0.001 cubic centimetre; very delicate children only 0.0005 cubic centimetre; and obtained a powerful, but in no way dangerous, reaction.) The general reaction consists in an attack of fever, which, generally beginning with rigors, raises the temperature above 39°, often up to 40°, and even 41° C.; this is accompanied by pain in the limbs, coughing, great fatigue, often sickness and vomiting. In several cases a slight icteric discoloration was observed, and occasionally an eruption like measles on the chest and neck. The attack usually begins four to five hours after the injection, and lasts from twelve to fifteen hours. Occasionally it begins later, and then runs its course with less intensity. The patients are very little affected by the attack and as soon as it is over feel comparatively well, generally better than before it. The local reaction can be best observed in cases where the tuberculous affection is visible; for instance, in cases of lupus: here changes take place which show the specific anti-tuberculous action of the remedy to a most surprising degree. A few hours after an injection into the skin of the back, that is, in a spot far removed from the diseased spots on the face, etc., the lupus spots begin to swell and to redden, and this they generally do before the initial rigor. During the fever swelling and redness increase, and may finally reach a high degree, so that the lupus tissue becomes brownish and necrotic in places. Where the lupus was sharply defined we sometimes found a much swollen and brownish spot, surrounded by a whitish edge almost a centimetre wide, which again was surrounded by a broad band of bright red.

After the subsidence of the fever the swelling of the lupus tissue decreases gradually, and disappears in about two or three days. The lupus spots themselves are then covered by a crust of serum, which filters outward and dries in the air; they change to crusts, which fall off after two or three weeks, and which, sometimes after one injection only, leave a clean red cicatrix behind. Generally, however, several injections are required for the complete removal of the lupus tissue. But of this more later on. I must mention, as a point of special importance, that the changes described are exactly confined to the parts of the skin affected with lupus. Even the smallest nodules, and those most deeply hidden in the lupus tissue, go through the process, and become visible in consequence of the swelling and change of color, while the tissue itself, in which the lupus changes have entirely ceased, remains unchanged. The observation of a lupus case treated by the remedy is so instructive, and is necessarily so convincing, that those who wish to make a trial of the remedy should, if at all possible, begin with a case of lupus.

The Local and General Reaction to the Remedy.

The specific action of the remedy in these cases is less striking, but is perceptible to eye and touch, as are the local reactions in cases of tuberculosis of the glands, bones, joints, etc. In these cases swelling, increased sensibility, and redness of the superficial parts are observed. The reaction of the internal organs, especially of the lungs, is not at once apparent, unless the increased cough and expectoration of consumptive patients after the first injections be considered as pointing to a local reaction. In these cases the general reaction is dominant; nevertheless, we are justified in assuming that here, too, changes take place similar to those seen in lupus cases.

The Diagnostic Value of the Method.

The symptoms of reaction above described occurred without exception in all cases where a tuberculous process was present in the organism, after a dose of 0.01 cubic centimetre, and I think I am justified in saying that the remedy will therefore in future form an indispensable *aid* to diagnosis. By its aid we shall be able to diagnose doubtful cases of phthisis; for instance, cases in which it is impossible to obtain certainty as to the nature of the disease by the discovery of bacilli or elastic fibres in the sputum, or by physical examination. Affections of the glands, latent tuberculosis of bone, doubtful cases of tuberculosis of the skin, and such like cases, will

be easily and with certainty recognized. In cases of tuberculosis of the lungs or joints which have become apparently cured we shall be able to make sure whether the disease has really finished its course, and whether there be not still some diseased spots from which it might again arise, as a flame from a spark hidden by ashes.

The Curative Effect of the Remedy.

Of much greater importance, however, than its diagnostic use is the therapeutic effect of the remedy. In the description of the changes which a subcutaneous injection of the remedy produces in portions of skin changed by lupus, I mentioned that after the subsidence of the swelling and decrease of redness the lupus tissue does not return to its original condition, but that it is destroyed to a greater or less extent, and disappears. Observation shows that in some parts this result is brought about by the diseased tissue becoming necrotic even after one sufficient injection, and at a later stage it is thrown off as a dead mass. In other parts a disappearance, or, as it were, a melting of the tissues, seems to occur, and in such case the injection must be repeated to complete the cure.

Its Action on Tuberculous Tissue.

In what way this process occurs cannot as yet be said with certainty, as the necessary histological investigations are not complete. But so much is certain, that there is no question of a destruction of the tubercle bacilli in the tissues, but only that the tissue enclosing the tubercle bacilli is affected by the remedy. Beyond this there is, as is shown by the visible swelling and redness, considerable disturbance of the circulation, and, evidently in connection therewith, deeply seated changes in its nutrition which cause the tissue to die off more or less quickly and deeply, according to the extent of the action of the remedy.

To recapitulate, the remedy does not kill the tubercle bacilli, but the tuberculous tissue; and this gives us clearly and definitely the limit that bounds the action of the remedy. It can only influence living tuberculous tissue; it has no effect on dead tissue, as, for instance, necrotic cheesy masses, necrotic bones, etc., nor has it any effect on tissue made necrotic by the remedy itself. In such masses of dead tissue living tubercle bacilli may possibly still be present, and are either thrown off with the necrosed tissue, or may possibly enter the neighboring still living tissue, under certain circumstances. If the therapeutic activity of the remedy is to be rendered as fruitful as possible, this peculiarity in its mode of action must be carefully observed. In the first instance, the living tuberculous tissue must be caused to undergo necrosis, and then everything must be done to remove the dead tissue as soon as possible, as, for instance, by surgical interference. Where this is not possible, and the organism can only help itself in throwing off the tissue slowly, the endangered living tissue must be protected from fresh incursions of the parasites by continuous application of the remedy.

The Dose.

The fact that the remedy makes tuberculous tissue necrotic, and acts only on living tissue, helps to explain another peculiar characteristic thereof, namely, that it can be given in rapidly increasing doses. At first sight, this phenomenon would seem to point to the establishment of tolerance, but since it is found that the dose can, in the course of about three weeks, be increased to five hundred times the original amount, tolerance can no longer be accepted as an explanation, as we know of nothing analogous to such a rapid and complete adaptation to an extremely active remedy. The phenomenon must rather be explained in this way, that in the beginning of the treatment there is a good deal of tuberculous living tissue, and that consequently a small amount of the active principle suffices to cause a strong reaction; but by each injection a certain amount of the tissue capable of reaction disappears, and then comparatively larger doses are necessary to produce the same amount of reaction as before. Within certain limits a certain degree of habituation may be perceived.

As soon as the tuberculous patient has been treated with increasing doses for so long that the point is reached when his reaction is as feeble as that of a non-tuberculous patient, then it may be assumed that all tuberculous tissue is destroyed. And then the treatment will only have to be continued by slowly increasing doses and with interruptions, in order that the patient may be protected from fresh infection while bacilli are still present in the organism.

Whether this conception and the inferences that follow from it be correct the future must show. They were conclusive, as far as I am concerned, in determining the mode of treatment by the remedy, which, in our investigations, took the following form.

The Treatment Applied to Lupus.

To begin with the simplest case, lupus; in nearly every one of these cases I injected the full dose of 0.01 cubic centimetre from the first. I then allowed the reaction to come to an end entirely, and then, after a week or two, again injected 0.01 cubic centimetre, continuing in the same way until the reaction became weaker and weaker and then ceased. In two cases of facial lupus the lupus spots were thus brought to complete cicatrization by three or four injections; the other lupus cases improved in proportion to the duration of treatment. All these patients had been sufferers for many years, having been previously treated unsuccessfully by various therapeutic methods.

The Treatment Applied to Tuberculosis of the Bones and Joints.

Glandular, bone, and joint tuberculosis was similarly treated, large doses at long intervals being made use of; the result was the same as in the lupus cases—a speedy cure in recent and slight cases, slow improvement in severe cases.

The Treatment Applied to Phthisis.

Circumstances were somewhat different in phthisical patients, who constituted the largest number of our patients. Patients with decided pulmonary tuberculosis are much more sensitive to the remedy than those with surgical tuberculous affections. We were obliged to lower the dose for the phthisical patients, and found that they

almost all reacted strongly to 0.002 cubic centimetre, and even to 0.001 cubic centimetre. From this first small dose it became possible to rise more or less quickly to the same amount as is well borne by other patients.

Our course was generally as follows: An injection of 0.001 cubic centimetre was first given to the phthisical patient; on this a rise of temperature followed, the same dose being repeated once a day until no reaction could be observed. We then rose to 0.02 cubic centimetre until this was borne without reaction; and so on, rising by 0.001, or at most 0.002, to 0.01 cubic centimetre and more. This mild course seemed to me imperative in cases where there was great debility. By this mode of treatment the patient can be brought to bear large doses of the remedy with scarcely a rise of temperature. But patients of greater strength were treated from the first partly with larger doses, partly with rapidly repeated doses. Here it seemed that the beneficial results were more quickly obtained.

The action of the remedy in cases of phthisis generally showed itself as follows: Cough and expectoration generally increased a little after the first injection, then grew less and less, and in the most favorable cases entirely disappeared; the expectoration also lost its purulent character and became mucous.

As a rule, the number of bacilli only decreased when the expectoration began to present a mucous appearance; they then from time to time disappeared entirely, but were again observed occasionally until expectoration ceased completely. Simultaneously the night-sweats ceased, the patients' appearance improved, and they increased in weight. Within four to six weeks patients under treatment for the first stage of phthisis were all free from every symptom of disease, and might be pronounced cured. Patients with cavities not yet too highly developed improved considerably, and were almost cured; only in those whose lungs contained many large cavities could no improvement be proved objectively, though even in these cases the expectoration decreased, and the subjective condition improved. These experiences led me to suppose that phthisis in the beginning can be cured with certainty by this remedy.[1]

Effect in Advanced Cases of Phthisis.

In part this may be assumed for other cases when not too far advanced; but patients with large cavities, who almost all suffer from complications caused, for instance, by the incursion of other pus-forming micro-organisms into the cavities, or by incurable pathological changes in other organs, will probably only obtain lasting benefit from the remedy in exceptional cases. Even such patients, however, were benefited for a time. This seems to prove that in their cases, too, the original tuberculous disease is influenced by the remedy in the same manner as in other cases, but that we are unable to remove the necrotic masses of tissue with the secondary suppuration processes.

[1] This sentence requires limitation in so far as at present no conclusive experience can possibly be brought forward to prove whether the cure is lasting. Relapses naturally may occur; but it can be assumed that they may be cured as easily and quickly as the first attack. On the other hand, it seems possible that, as in other infectious diseases, patients once cured may retain their immunity. This, too, must for the present remain an open question.

The thought suggests itself involuntarily that relief might possibly be brought to many of these severely afflicted patients by a combination of this new therapeutic method with surgical operations (such as the operation for empyema), or with other curative methods. And here I would earnestly warn people against a conventional and indiscriminate application of the remedy in all cases of tuberculosis. The treatment will probably be quite simple in cases where the beginning of phthisis and simple surgical cases are concerned; but in all other forms of tuberculosis medical art must have full sway by careful individualization, and making use of all other auxiliary methods to assist the action of the remedy. In many cases I had the decided impression that the careful nursing bestowed on the patient had a considerable influence on the result of the treatment, and I am in favor of applying the remedy in proper sanatoria, as opposed to treatment at home and in the out-patient room.[1] How far the methods of treatment already recognized as curative—such as mountain climate, fresh air treatment, special diet, etc.—may be profitably combined with the new treatment, cannot yet be definitely stated, but I believe that these therapeutic methods will also be highly advantageous when combined with the new treatment in many cases, especially in the convalescent stage. The most important point to be observed in the new treatment is its early application. The proper subjects for treatment are patients in the initial stage of phthisis, for in them the curative action can be most fully shown, and for this reason, too, it cannot be too seriously pointed out that practitioners must in future be more than ever alive to the importance of diagnosing phthisis in as early a stage as possible. Up to the present, the proof of tubercle bacilli in the sputum was considered more as an interesting point of secondary importance, which, though it made diagnosis more certain, could not help the patient in any way, and which, in consequence, was often neglected. This I have lately repeatedly had occasion to observe in numerous cases of phthisis which had generally gone through the hands of several doctors without any examination of the sputum having been made. In future this must be changed.

A doctor who shall neglect to diagnose phthisis in its earliest stage by all methods at his command, especially by examining the sputum, will be guilty of the most serious neglect of his patient, whose life may depend on this diagnosis and the specific treatment at once applied in consequence thereof. In doubtful cases medical practitioners must make sure of the presence or absence of tuberculosis, and then only the new therapeutic method will become a blessing to suffering humanity when all cases of tuberculosis are treated in their earliest stage, and we no longer meet with neglected serious cases forming an inextinguishable source of fresh infections. Finally, I would remark that I have purposely omitted statistical accounts and descriptions of individual cases, because the medical men who furnished us with patients for our investigations have themselves decided to publish the description of their cases, and I wished my account to be as objective as possible, leaving to them all that is purely personal.

[1] As regards tuberculosis of brain, larynx, and miliary tuberculosis, we had too little material at our disposal to gain proper experience.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 25. **Whole No. 1050.** NEW YORK, DECEMBER 20, 1890 **$5.00 Per Annum.** **Single Copies, 10c.**

Original Articles.

THE ABSORPTION OF IMMATURE CATARACT BY MANIPULATION CONJOINED WITH INSTILLATION.[1]

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IN a paper read before the Section on Ophthalmology of the New York Academy of Medicine, on March 17, 1890, I announced my discovery of the method of curing cataract without the use of the knife. Before that announcement was made the only method known was to wait until the cataract became ripe, which necessitated that the patients become blind, or nearly so, before anything could be done to relieve them, and even then from four to six per cent. of those operated upon proved unsuccessful, incurable blindness being the ultimate result. Nor is this all. I have this winter seen two cases which had been operated upon more than a year ago. "A perfect success," the surgeon said. For about six months the sight was fairly good, then the "second" operation, needling, was called for, and since this was done sight has been very much reduced and an inflamed eye, painful in the extreme, has resulted in each case. As these two so-called successful cases have terminated so badly, may we not assume that others, primarily successful, were secondarily the reverse? In light of this I deem it opportune to again call the attention of the profession to the unvarying and permanent success attending the employment of my plan of treatment in uncomplicated immature cataract.

In the paper above referred to I stated that a number of cases additional to the six therein reported had been successfully treated, but so recent had been this treatment that their histories would be withheld until a sufficient period of time had elapsed to thoroughly test the permanency of the cure.

Before reading my paper I will submit for your inspection these diagrams, showing the ophthalmoscopic pictures of some of these cases before the treatment was instituted and the appearances observed at different periods during the course of the treatment. These diagrams were made from ophthalmoscopic inspection, examination, and study by Miss F. Elkins, whose skill in this direction is conceded by ophthalmologists. In employing the ophthalmoscope the view giving the greatest extent of lenticular opacity was the one diagrammed, and where it was not possible to show truthfully in one diagram the extent of the lenticular opacity, a second one, at a specified angle, was made. The degree of illumination, distance of the ophthalmoscope from the observed eye, angle of incidence of the ophthalmoscope, and focal length of the lens employed were carefully noted, and at stated times under precisely similar conditions the subsequent diagrams were made. It is but fair to state that all of the preliminary drawings were invariably returned to me at the same time as the finished diagrams, and by no possible means could, or did, the artist have any way to refresh the memory as to the previous appearances of a given cataract.

I propose in this paper to report those cases treated prior to July 16, 1890. These cases are reported by numbers, and in the same order as in my private case-book.

CASE VII.—Vision in the right eye on September 2, 1889, was $\frac{20}{100}$, and with + 2 D. Sph. was $\frac{20}{70}$; November 15th, was $\frac{20}{100}$, and with + 2 D. Sph. was $\frac{20}{50}$. Left eye, September 2d, was $\frac{20}{200}$, unimproved; November 15th, was $\frac{20}{100}$, and with + $2^{.50}$ D. Sph. was $\frac{20}{70}$. Reading, September 2d, was Jaeger 13, but only a few lines, unimproved by spectacles; November 15th, Jaeger 7, easily read with + 4 D. Sph. for the right, and $4^{.50}$ D. Sph. for the left eye. Duration of the treatment, about eleven weeks.

CASE VIII.—Vision was, in both eyes, September 3, 1889, $\frac{20}{70}$, unimproved; November 16, $\frac{20}{30}$, and with + 3 D. Sph. was $\frac{20}{20}$. Read, September 3d, with + 2 D Sph., Jaeger 7, but very slowly. Read, November 16th, with + 3 D. Sph., Jaeger 5, easily and clearly, and puzzled out Jaeger 3. Only a slight opacity remaining, but personal matters required her presence at home. Duration of the treatment, ten and one-half weeks.

CASE IX.—Vision was, in the right eye, September 3, 1889, $\frac{20}{200}$, unimproved; December 7th, $\frac{20}{100}$, and with + 2 D. Sph. was $\frac{20}{60}$. Left eye, September 3, 1889, $\frac{20}{100}$, and with + 1 D. Sph. was $\frac{20}{70}$; December 7th, $\frac{20}{70}$, and with + $1^{.50}$ D. Sph. was $\frac{20}{30}$. Read, September 3d, with right, Jaeger 13; December 7th, Jaeger 9, and with + $2^{.50}$ D. Sph., Jaeger 6. Read, September 3d, with left, Jaeger 9; December 7th, Jaeger 7, and with + 3 D. Sph., Jaeger 5. Newspaper easily read. Duration of treatment, thirteen and one-half weeks.

CASE X.—Vision in both eyes was, September 9, 1889, $\frac{20}{200}$ plus, and a weak convex glass made the letters clearer. December 14, 1889, $\frac{20}{100}$, and with + 2 D. Sph. for the right, and + $2^{.50}$ D. Sph. for the left, was $\frac{20}{70}$; September 9th, with + 2 D. Sph. read Jaeger 13 at varying distances; December 14th, with + 3 D. Sph. read Jaeger 6 easily, and by straining could make out Jaeger 2. Newspaper easily read. Duration of the treatment, about fourteen weeks.

CASE XI.—Vision was, in the right eye, on September 17, 1889, $\frac{20}{70}$, and with + 1 D. Sph. $\frac{20}{70}$; November 22d, $\frac{20}{50}$, with + $1^{.50}$ D. Sph. was $\frac{20}{30}$. Left eye, on September 17, 1889, $\frac{20}{100}$, and with 2 D. Sph., $\frac{20}{70}$; November 22d, $\frac{20}{70}$, and with + 2 D. Sph. was $\frac{20}{40}$. Read, September 17th, Jaeger 8, and could puzzle out Jaeger 5; November 22d, read Jaeger 4 easily, and with + 3 D. Sph. read Jaeger 1. At the upper edge of the lens periphery is an opacity about double the size of a pin's-head, but every other part of the lens is clear, no trace of an opacity being discernible. In the left only a general haziness remains, irregular in outline, and with + 4 D. Sph. newspaper type can be plainly read. Duration of the treatment, about ten weeks.

CASE XII.—Vision in both eyes was, on November 11, 1889, $\frac{20}{100}$, and with + 1 D. Sph. letters were clearer. January 25, 1890, $\frac{20}{70}$, and with + $1^{.50}$ D. Sph. was $\frac{20}{50}$ plus; November 11th, read Jaeger 10 with the right eye, and Jaeger 11 with the left; not benefited by glasses; January 25th with + 4 D. Sph. for the right, and + 3 D. Sph. for the left, read Jaeger 6 clearly, and could decipher Jaeger 2. Very marked diminution in the density of the cataracts. Duration of the treatment, about eleven weeks.

CASE XIII.—Vision was, in the right eye, on November 18, 1889, $\frac{20}{70}$ plus; left, $\frac{20}{70}$ minus, unimproved by any glass; January 25. 1890, $\frac{20}{50}$ in both eyes, and could puzzle out $\frac{20}{40}$; November 18th, with + 2 D. Sph. read Jaeger 9 with each eye separately, together read Jaeger 6.

[1] Read before the Medical Society of the County of New York, November 24, 1890.

January 25th, with + $2\frac{50}{}$ D. Sph. for the right, and + $3\frac{50}{}$ D. Sph. for the left eye, read Jaeger 5 easily, and could read a few lines of Jaeger 1. The cataracts have almost entirely disappeared, that which remains appearing to be more in the nature of a capsular thickening than cortical opacity. Duration of the treatment, about ten weeks.

CASE XIV.—Vision was, in the right eye, on November 18, 1889, $\frac{20}{100}$, unimproved; January 31, 1890, $\frac{20}{70}$ and a few letters of $\frac{20}{60}$. Left eye, on November 18th, $\frac{20}{100}$, slightly clearer with + 1 D. Sph.; January 31, 1890, $\frac{20}{70}$ and a few letters of $\frac{20}{60}$; November 18th, with + 2 D. Sph., read Jaeger 9 with the right, and Jaeger 10 with the left eye; January 31st, with + $2\frac{50}{}$ D. Sph. for each eye, read Jaeger 5 easily, and could read a few lines of Jaeger 2. Duration of the treatment, eleven weeks.

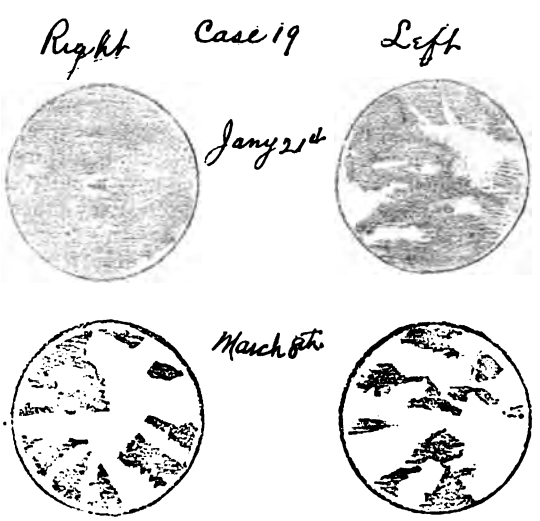
CASE XV.—Vision was, in the right eye, on November 18th, $\frac{20}{100}$, unimproved; January 30th, $\frac{20}{70}$. Left eye, on November 18th, $\frac{20}{200}$, unimproved; January 30, $\frac{20}{70}$. Read, on November 18th, with the right eye, Jaeger 10; January 30th, Jaeger 5 with + 3 D. Sph.; with the left, on November 18th, read Jaeger 12; January 30th, with + 3 D. Sph., read Jaeger 6, but not as clearly as with the right. Duration of the treatment, eleven weeks.

CASE XVI.—Vision was, in the right eye, on November 18, 1889, $\frac{20}{200}$, unimproved; January 30th $\frac{20}{70}$, unimproved. Left eye, on November 18th, $\frac{20}{200}$, and with + 1 D. Sph., $\frac{20}{100}$. January 30th, $\frac{20}{70}$, unimproved. Read, November 18th, with both eyes, Jaeger 10, and with + 2 D. Sph. it was clearer; January 30th, with + 3 D. Sph. read Jaeger 5, and could discern Jaeger 3. Duration of the treatment, about eleven weeks.

CASE XVII. will be described later on in connection with remarks on mature cataract.

CASE XVIII.—Patient has always been so extremely myopic that it has been only by straining the eyes that she has recognized friends passing her; and even then it has been more by the attire or some peculiarity of gait than by sight. Vision on January 16, 1890, in both eyes, was about $\frac{1}{200}$. She could read Jaeger 8 at about two inches from her eyes. Treatment for three months, with intervals of rest intervening between the successive months. June 18th, vision was about $\frac{3}{200}$, and with — 8 D. Sph. she read Jaeger 6 at four inches. The cataracts are barely perceptible, and the sight the patient declares to be fully as good as before cataract was observed. There is a myopia equal to about 14 dioptries.

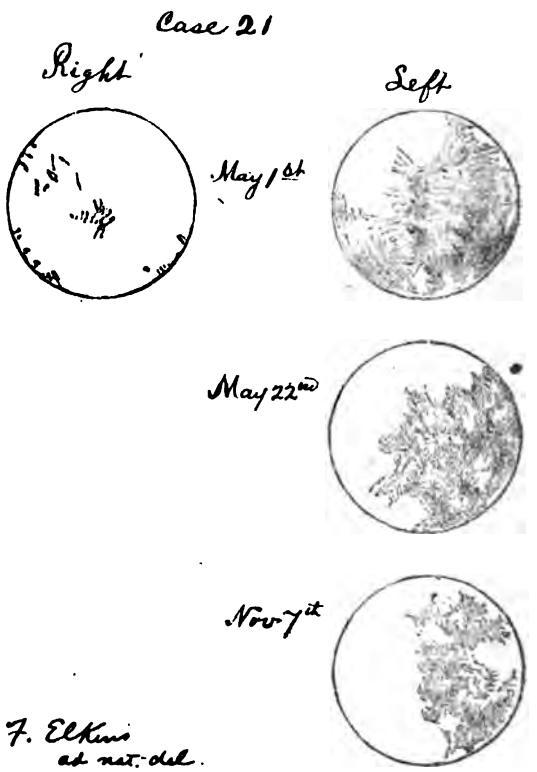
CASE XIX.—Vision was, in the right eye, on January 21st, $\frac{20}{70}$, unimproved; March 8th, $\frac{20}{60}$. Left eye, on Janu-



ary 21st, $\frac{20}{200}$, unimproved; March 8th, $\frac{20}{100}$. He could not read even Jaeger 13 because of the blurr over the letters. On March 8th, with + $2\frac{50}{}$ D. Sph., read Jaeger 6 slowly. Duration of the treatment, six weeks, when it was stopped, as illness in his family necessitated a trip to a warmer section of this country.

CASE XX.—The history of this patient dates from June 15, 1875, when her relatives were told that she had incipient cataract, her vision being, in the right eye, $\frac{20}{50}$, and in the left, $\frac{20}{20}$. I saw her on February 3, 1890, fifteen years later, and found the vision in her right eye to be reduced to $\frac{20}{200}$. Treatment was then instituted, and on April 23d her vision was $\frac{20}{60}$. In the left eye, February 3d, $\frac{20}{15}$, and on April 23d, $\frac{20}{20}$. Reading had not been entirely given up because of the sight remaining in the left eye, but reading for half an hour wearied both eyes so much that she was about ready to give up using her eyes for any near work. Two weeks after the commencement of the treatment she began to use her eyes moderately for reading, gradually lengthening the period of use, and at the end of a month was able to use her eyes for all purposes, unaware of any defect in her sight. Cataracts were markedly thinned, and left one quite so. Duration of the treatment, eleven weeks.

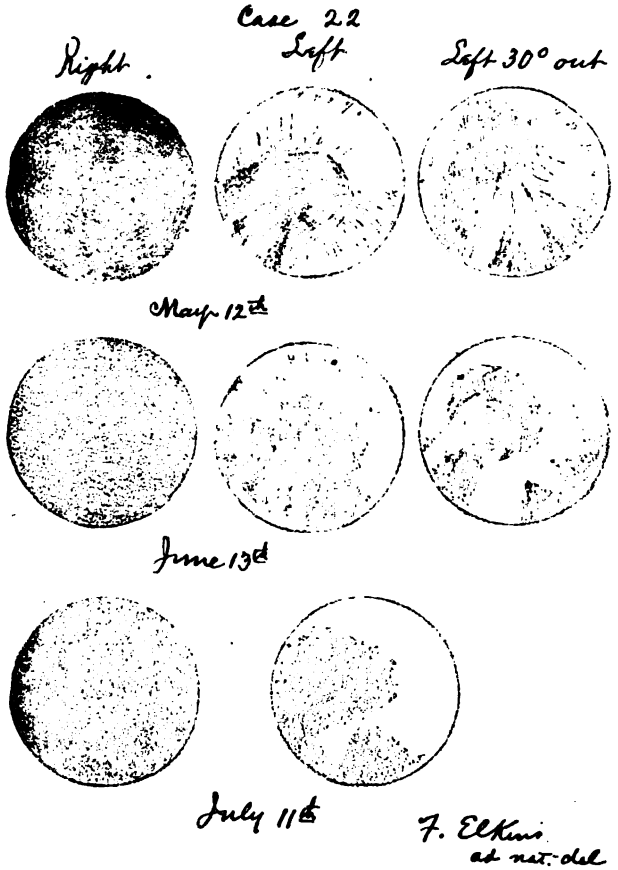
CASE XXI.—Myopia of about 6 dioptrics. Vision was, in the right eye, on May 1st, $\frac{5}{200}$, and with — 5 D. Sph. was $\frac{20}{70}$; June 7th, $\frac{5}{200}$, and with — 5 D. Sph. was $\frac{20}{40}$. Left eye, on May 1st, $\frac{5}{200}$, and with — 5 D. Sph. was $\frac{20}{100}$; June 7th, $\frac{3}{200}$, and with — 5 D. Sph. was $\frac{20}{100}$;



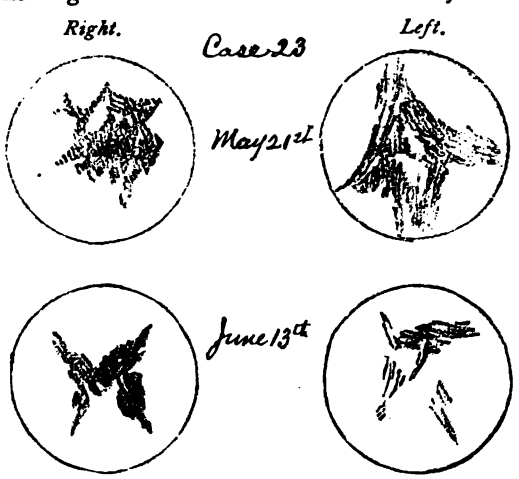
May 1st, read Jaeger 5 at six inches, but had no range of sight; June 7th, read Jaeger 1 at six inches, and with — 2 D. Sph. read Jaeger 5 at eleven to fourteen inches; May 1st, left eye could only read the letters on the thirty-feet line of the Snellen test-card at eight inches; June 7th, at the same distance, the letters of the twenty-feet line were read. The opacity of the right lens is entirely absorbed, not a vestige remains or is discoverable by prolonged and painstaking search. In the left eye considerable thinning of the opacity has taken place, and gross vision is much better. Duration of the treatment, about six and one-half weeks.

CASE XXII.—Vision was, in the right eye, on May 1st, Snellen test-card, the two-hundred-feet line at six inches; July 16th, at ten feet. Left eye, May 1st, $\frac{20}{200}$, unimproved; July 16th, $\frac{20}{100}$, unimproved. In the right eye practically no reading power. In the left, May 1st, Jaeger 13 with + 5 D. Sph., and on July 16th, with the same correction, read Jaeger 11. A reference to the diagrams will disclose that the cause for the defective reading power is found in the location of the opacity, which is directly behind the pupil, and the densest opacity fills up the pupil-

lary space. In addition thereto, the pupil itself is unusually small, and this interferes with the entrance of light and images. Sight for distant objects is greatly improved. Duration of the treatment was eleven weeks.

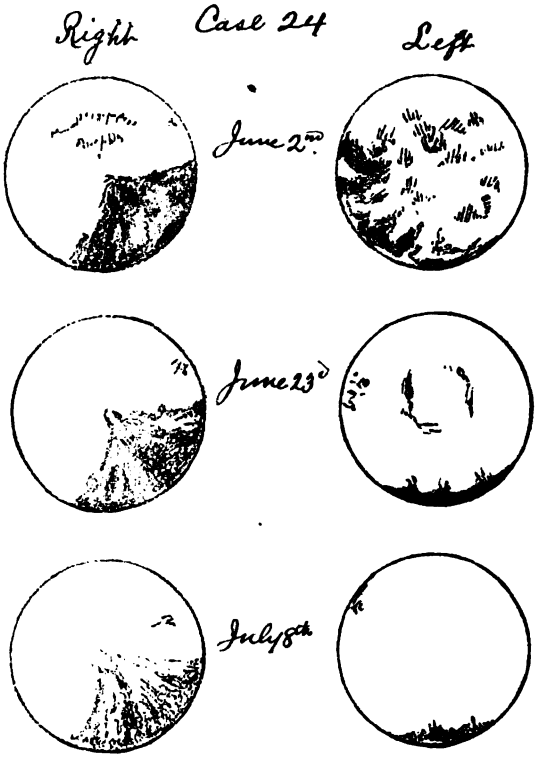


CASE XXIII.—Hyperopia of fully 5 dioptrics. Vision was, in the right eye, on May 16th, $\frac{7}{200}$, and with + 2 D. Sph. was $\frac{20}{70}$; June 14, with + 2 D. Sph. was $\frac{20}{70}$. Left eye, on May 16th, $\frac{8}{200}$, and with + $2^{.50}$ D. Sph. was $\frac{20}{70}$; June 14, with + $2^{.50}$ D. Sph. was $\frac{20}{50}$. On May 16th, with her spectacles (+ 7 D. Sph.), read Jaeger 3 with both eyes; June 14, read Jaegar 1, using her spectacles. These cataracts were advanced beyond the incipient stage, and her sight was so blurred that she rarely went out



alone, fearing that the "fog," as she called it, might prevent her from seeing approaching persons. Under treatment her sight was so much improved that the "fog" has now disappeared, and by use of her spectacles everything is clearly seen. A reference to the picture will show how great has been this improvement. At the expiration of four weeks she went out of town for the heated term. From my observation in other cases, I would say that treatment for another month will bring about complete absorption.

CASE XXIV.—Vision was, in the right eye, on May 19th, $\frac{15}{200}$, but only at times; July 8th, $\frac{20}{200}$, and with + $0^{.12}$ D. was $\frac{20}{100}$. Left eye, on May 19th, $\frac{20}{30}$, unimproved; July 8th, $\frac{20}{40}$, unimproved; May 19th, with right eye read Jaeger 13 slowly; July 8th, read Jaeger 9; with the left eye, May 19th, read Jaeger 10 at seven to thirteen inches, and made out Jaeger 9; with + $2^{.25}$ D. Sph. read Jaeger 5 slowly, and with an effort; July 8th, with + 3 D. Sph. for both eyes, he read Jaeger 6 at eleven inches. The cataract in the right eye is reduced in size, changed somewhat in shape, and density greatly lessened. In the left eye only a faint line of lenticular opacity remains, situated at the lower periphery of the lens. The central opacity is completely absorbed, and further treatment, which will



be begun after January 1, 1891, will absorb the peripheral opacity. Sight for distant objects, using both eyes, is perfect. Duration of the treatment, seven weeks.

An analysis of these cases shows that the treatment has been invariably successful, the improvement being in direct proportion to the amount of lenticular opacity present at the outset of the treatment, that is, the less dense the opacity, the better the result; but all the cases have been benefited. Three cases were incipient in character, and in every one of them absorption of the central opacity was complete, at the periphery of the lens a slight opacity remaining, and this entirely out of the line of vision—two of these cases requiring prolonged search, with a lens of high power and a weak light illumination to reveal their presence. In one case the absorption is absolutely complete, the most rigid and exacting examination failing to show the existence of even the slightest opacity. In still another case four faint lines, like sectors, remain to mark the location of an immature cataract which had so seriously interfered with vision as to bring about a state of nervous exhaustion, alike alarming to her physician and friends. With the restoration of her sight a corresponding improvement in her general health has occurred. The remaining cases were more or less advanced in progress, but in every case useful vision has been permanently restored. In the consideration of the subject of the cure of cataract by absorption the first question which presents itself is this:

Will a case of mature cataract respond favorably to this treatment? With the intention of obtaining a reply to this query the following test was instituted:

CASE XVII.—Discovered suddenly that her left eye was blind, the reception on the cornea of the right eye of a fragment of stone causing her to close the eye. Vision in the right eye was $\frac{1}{10}$, and with + 0.50 D. Sph. was $\frac{2}{10}$. In the left eye light perception only. By ophthalmoscopic examination the right eye was found to have a slight lenticular opacity at the periphery, and an hyperopia of one dioptris, and in the left eye a mature cataract with good light projection. The patient consenting to put herself under my care, treatment by manipulation, conjoined with instillation, was begun on January 4, 1890. At this time it was impossible for her to count the spread of fingers of the hand, even when held to intercept the light, and within a few inches of the eye. On February 26th, fingers were counted at a distance of six inches from the eye; on March 28th at ten inches; on April 30th at twenty inches, and on May 25th at twenty-four inches. On June 5th patient experienced a sudden numbness of the left side of the face, over the upper maxilla, which feeling spread upward, involving one-half of the head, and then passed downward as far as the knee on the same side of the body. This was followed by a sensation of pricking and then of sleepiness, "like the foot going to sleep," she described it. A little mental confusion was noticed, and a condition of semi-consciousness for a short time was experienced. On June 7th, two days later, I found her sensation and movements normal, and her sight reduced to counting fingers at about eighteen inches—a lessening of six inches; but on July 8th she again counted fingers at twenty-four inches. Treatment was then stopped for the summer. An examination made November 17th shows that fingers can be counted at twenty-six inches, a gain of two inches, and although there has been no treatment for four months she can discern the outlines of large objects. This case having shown such evidences of improvement, I feel that the time has not yet come to express a decided opinion, and that only after further experimentation will it be possible to answer this question.

The second question requiring a reply is this: How far advanced toward maturity can an immature cataract be and still be benefited by my plan of treatment? All my cases having been so markedly benefited, and the situation and extent of the opacity having so greatly varied in each case, I do not feel able to lay down any law or rule covering this point. In some cases with a decided opacity resorption seemed very active, and the clearing up of the opacity came about right speedily, while in others with less opacity the absorption took place much more slowly. Without formulating a decided opinion, I venture to make this statement, that it has seemed to me the more anterior the opacity, that is, the nearer the opacity was situated to the anterior capsule, the sooner did I observe evidence of the result of absorption, and the shorter was the period of treatment required. It is, however, incumbent upon me to say that in every case of immature cataract a marked diminution in the extent and density of the lenticular opacity was demonstrated by ophthalmoscopic examination, oblique illumination, and in those to whom the ability to read had been lost, reading power was always reacquired. The fact that every case was so much benefited does not allow me to set bounds at present to the application of the treatment.

A third and most important question is: Is the effect produced by my plan of treatment permanent? I do not hesitate to declare my firm conviction that the result produced is a permanent one. Not a single patient has had the slightest diminution in sight since the cessation of the treatment. I impress upon them the necessity of periodical reports as to conditions they may observe in their sight. In every case they have reported an improvement in sight, continuing after the stoppage of the treatment. This improvement, they say, becomes more apparent about two weeks subsequent to the treatment. I have had the opportunity, within the past fortnight, of subjecting to rigid examination two of the cases reported in my first paper, who were treated prior to March 1, 1889. In each case there was an improvement in vision, and an easily recognizable opacity, which was then present, can now barely be distinguished. This improvement in sight, observed in all my cases—non-progression of the opacity, but rather continuance of absorption of the cataractous process in a series of cases, some of them whose treatment was stopped more than nineteen months ago — establishes the permanently beneficial character of the result caused by my method of manipulation conjoined with instillation, and indicates the line of treatment to be adopted and faithfully carried out in curing immature, uncomplicated cataract.

In the history of these cases a curious circumstance has been noticed. This may be a concomitance only, but this I doubt. With only two exceptions these patients have for years been sufferers from aggravated forms of dyspepsia, and of the two exceptions one has suffered severely from time to time from attacks of indigestion with flatulency. The debilitating influence upon the system, from the absorption by the tissues of imperfectly digested food, which supplies an incomplete and abnormal nutriment to the body, brings about, as has often been proven, a serious disturbance of, and interference with, repair in the economy. Hence it is but natural to suppose that, under such conditions, the lens, in common with other parts, must not only suffer from lack of nourishment, but may also become changed in structure, and its functions interfered with, because of the reception by the organ of an altered and unnatural pabulum. We are therefore led to ask if dyspepsia may not, after all, often stand in a causative relation to the production of cataract, or, if it may not be a prominent agent in bringing this about. The existence of dyspepsia, in one form or another, in ninety-four to ninety-seven per cent. of my cases, seems to be good ground for the supposition that these troubles—dyspepsia and cataract—may often stand in the relation of cause and effect. Now, if subsequent investigation and observation shall confirm this theory, then for the general practitioner is opened up an extensive and far-reaching field of usefulness now unnoticed and unattended. By careful attention to, and judicious treatment of, the digestive troubles of his patients who have passed their fortieth year, he can, by checking a condition favorable to its development, materially and largely reduce the chance of the occurrence of cataract. My rule has been, and still is, to send these patients to their family physician, and I have noticed, as a constant effect, that as soon as appetite is improved, and faulty digestion made good, the cataracts show a marked tendency toward improvement in direct relation with the improvement in the digestive function.

Before announcing the conclusions arrived at I wish to state that in the MEDICAL RECORD of March 29, 1890, I have given full directions for the preparation of the solution employed, and for the manner and method of manipulation, for it is a peculiar manipulation, not a massage.

My conclusions are: 1. Further investigations are necessary before a decided opinion can be expressed as to the result of this treatment in mature cataract. 2. Immature, uncomplicated cataract can be benefited to the reacquisition of reading power, that is, to good, useful vision. 3. Incipient cataracts and those which have but passed into a state of immaturity can be entirely absorbed. 4. This being so, the sooner a cataract comes under treatment the better the result obtained. 5. The effect produced by my method of manipulation, conjoined with instillation, is permanent.

50 WEST THIRTY-SIXTH STREET.

Pretty Good for a Six Year Old.—Dr. A. H. S. writes: I circumcised a little fellow six years of age the other day, and when he recovered from the anæsthetic he remarked: "That is the meanest thing one fellow ever did to another."

SOME FACTS IN THE ETIOLOGY OF TUBERCULOSIS, EVIDENCED BY THIRTY AUTOPSIES AND EXPERIMENTS UPON ANIMALS.[1]

By H. P. LOOMIS, M.D.,
NEW YORK.

It is a well-known fact that tubercles are deposited in the bronchial glands of adults, subsidiary to deposits in the lungs, in about one-fourth of all cases of phthisis. Some cases which show only a single small patch of tubercular change in the lungs present bronchial glands extensively diseased and often entirely caseous. It may also be added, in accordance with the report of cases as given below, that well-marked tuberculosis of the bronchial glands may exist where the lungs are perfectly normal, and no evidence of tuberculosis can be found elsewhere in the body. It was with the object of ascertaining the frequency of this latter class of cases that I commenced, eighteen months ago, a series of examinations of non-tubercular cases, and to render the conclusions as free from error as possible associated controlled experiments upon animals. In cases of phthisis in infancy and childhood, it is an equally well-established fact that an abundant deposit of tubercles in the bronchial glands is of great frequency, the disease in the glands being ofttimes as important as that in the lungs, and, in general, much more considerable. These evidences led Bollinger to carefully examine the bronchial glands of all children who died during the great epidemic of measles in Munich, in 1887. He found and proved that tuberculosis may be latent in a child in apparently perfect health, and also demonstrated the presence of tubercle bacilli in the swollen lymphatic glands at the root of the lungs and in the mediastinum in children who gave no evidence whatever of tuberculosis in the lungs or other parts of the body. It has further been demonstrated that in most cases of phthisis in children the disease has been preceded by a long-existent, but latent, glandular tuberculosis, the lymphatic glands in children being in a state of functional activity, and therefore by the slightest irritation becoming the seat of acute congestion. Papavoine mentions forty-nine children, of whom eleven were affected with tubercles in the bronchial glands without any in the lungs.

The following synopses of half a dozen cases presented during the last few years before the London and New York Pathological Societies are of interest here. Although they were not all confined to children, in all of them a tuberculosis of the bronchial glands preceded the general tubercular outbreak.

Cases from the London Pathological Society.—I. Caseous tubercle of the bronchial gland invading the lung; tubercular meningitis; general tuberculosis (vol. xxix., p. 322).

II. Acute tuberculosis; tubercular pleurisy and pericarditis, following caseous enlargement of the bronchial or mesenteric glands, in a child of eight months old (vol. xxvi., p. 246).

III. Caseation of bronchial glands; tubercular tumors of brain; miliary tuberculosis of lungs and kidney (vol. xxix., p. 11).

IV. Caseation and enlargement of several bronchial glands; one produced tuberculosis of mucous membrane of adjacent bronchus; severe pulmonary tuberculosis, in a child of nine months old (vol. xxx., p. 254).

V. Suppurating (caseous) tubercular bronchial gland opening into œsophagus and bronchus; tubercular ulcers of stomach and intestines; miliary tuberculosis of all organs (vol. xxxvi., p. 104).

Cases from the New York Pathological Society.—VI. General tuberculosis; enlarged bronchial glands, with ulceration into right bronchus (1888, p. 146).

VII. General tubercular meningitis; cerebral thrombosis or softening; enlarged bronchial glands, with ulceration into right bronchus, at seven months (1888, p. 147).

VIII. Phosphorus poisoning; single enlarged bronchial gland, section of which showed tubercle bacilli (1889, p. 120).

Other Cases.—I. Old cheesy degeneration (tubercular) of bronchial glands; acute tubercular meningitis, few miliary tubercles in lungs, recent (Huguenin, in "Ziemssen's Cyclopædia").

II. Mass tubercular bronchial glands in a child of four which had produced symptoms of croup. At autopsy found to have softened and ruptured into trachea (Dr. Fuller's "Diseases of the Chest," p. 395, London).

III. Tubercular deposits in the bronchial glands and a single tubercle in the brain were the only lesions found in a case reported by Rilliet and Barthez.

From the foregoing it seems reasonable to question whether a similar glandular condition may not exist in adults, only becoming appreciable when a lowering of the vitality, or some unknown cause favoring the escape of the bacilli from the glands, sets up a general tuberculosis, then easily recognized. I have been unable to find any report or statement of observations which have as yet been made to settle this point. The only printed statistics which give an idea of the frequency of primary tuberculosis of the bronchial glands are made by Dr. Chambers in a report ("Deceminum Pathologicum") of post-mortem examinations on five hundred and sixty-six tubercular patients at St. George's Hospital, during a period of ten years. He gives nine cases from among these as having glands and not the lungs involved; all were cases, however, in which the diagnosis was only made by gross appearance, and it is easily seen how this is liable to error. Professor Von Ziemssen, in his work on "Pulmonary Tuberculosis," when writing of latent tuberculosis in the glands of children, simply suggests the possible occurrence in adults. Zeigler, in his last work on "Pathological Anatomy," under the subject of "Phthisis," states that bronchial glands may be tuberculous throughout their entire extent and yet no changes at all be discovered in the lungs. How he reaches this conclusion he does not say. Cornil introduced into the trachea of guinea-pigs a few drops of tuberculous culture and observed submucous tubercular lesions with rapid generalization, and afterward demonstrated tubercle bacilli in the bronchial glands, thus showing that the bacilli may reach the bronchial glands directly through the tracheal mucous membrane. Before my attention was called especially to the bronchial glands I had made many autopsies on cases of acute pulmonary or acute general tuberculosis, and although it seemed undoubted that lesions must exist somewhere to show where the tubercle bacilli entered the body, multiplied, and gained headway before being able to produce a general infection, the spot was not ascertainable. For the last year I have examined carefully the bronchial glands in this class of cases and have been surprised to find in how many instances the glands were extensively involved and the lesion far advanced, and apparently antedating the general eruption. For instance, on March 4th of this year I made an autopsy on a young woman, twenty-six years of age, who had been in perfect health until four weeks before her death, when she was seized with fever and chills, which led to the diagnosis of malarial fever; one week later the diagnosis of general pulmonary tuberculosis was made. At the autopsy both lungs were found studded throughout their entire substance with small, gray, miliary tubercles; no old tubercular foci were found in the lungs, nor any other evidence of disease, except tuberculosis. No point of infection could be found, except one large bronchial gland, which presented the characteristic changes of an old tubercular process. At a meeting of the New York Pathological Society, on February 27th, Dr. Van Giesen presented an enlarged bronchial gland removed from a patient who had died of phosphorus poisoning. Sections of the gland showed it to be tubercular. No tubercles were found in any other part of the body.

It has been demonstrated that tubercle bacilli may be

[1] Read before The Society of the Alumni of Bellevue Hospital.

inhaled in respired air. The position of the bronchial glands and the arrangement of the lymphatics in the respiratory tracts render it easier for the inhaled tubercle bacilli to enter them than the lung parenchyma, for it is to be remembered that at the branching of the trachea between the right and left bronchi is a group of glands, from ten to fifteen in number, varying in size from a small pea to an olive, and that just beneath the mucous membrane of the lower portion of the trachea, and the mucous surface of all the bronchi is an immense net-work of lymphatic vessels running directly into the bronchial glands; also different lymphatics reach these glands from the lungs, the pleura, and adjoining parts. The blood-supply of the gland is from the bronchial arteries, and the blood is returned to the bronchial veins, and so to the right side of the heart. On the mucous surface of the trachea and larger bronchi the tubercle bacilli would be more liable to lodge, than to be carried down to the pulmonary alveoli. If the integrity of these mucous surfaces is weakened, as occurs during mild attacks of bronchial catarrh, the direct passage of the tubercle bacilli into the bronchial glands would be favored. The tubercle bacilli, having once gained entrance to the bronchial glands, would there find fit soil for development and a temperature most favorable to their growth. In the cases which I have examined the tubercular infection did not appear to have begun simultaneously in all the glands, nor to have advanced with the same rapidity in each gland. One or two abnormally large glands are probably found at the bifurcation of the trachea, which form an irregular, rounded, lobulated mass, measuring two, or even more inches in diameter. The other bronchial glands vary in size from a natural bulk to that of an egg, a few only or several may be affected.

Many of the glands affected will present a general tubercular lesion, being dense, firm, and scattered throughout with tubercular masses. These glands are often very much pigmented, and are generally surrounded by a dense capsule of connective tissue, firmly binding the gland to the surrounding parts. The natural thin involucrum of the gland always thickens as tuberculosis advances. This condition was especially noticed in the bronchial glands removed from the cases which I have collected and which were proven by inoculation experi-

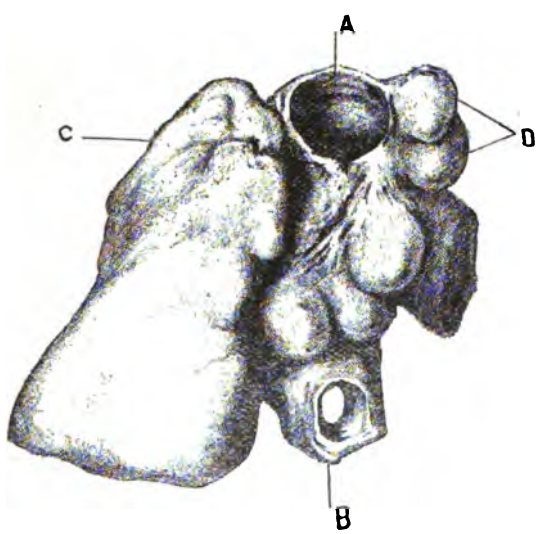


FIG. 1.—Enlarged Tubercular Bronchial Gland. *A*, trachea; *B*, right bronchus; *C*, enormously enlarged bronchial gland, proven by examination to be tubercular; *D*, collection of bronchial glands between right and left bronchus, slightly enlarged.

ments to have contained bacilli. Adhesions to the bronchial tubes are formed through the medium of an areolar tissue, which is at first loose in its texture, but becomes more dense. It would seem to be a conservative process limiting the tuberculosis and accounting for the fact that bacilli were present within the organism without producing any evil effects. Sometimes the glands become so infiltrated as to constitute a yellowish-white friable substance in which no vestige of the pristine texture remains discernible. Frequently in the glands are to be found encysted, cheesy, or calcareous masses, sometimes quite large, the cretaceous material being, as a rule, near the centre of the gland.

Fig. 1 is an accurate reproduction of a collection of enlarged bronchial glands removed from Case XXX. Six glands were removed, one of which was nearly as large as the one shown in the drawing. These were in

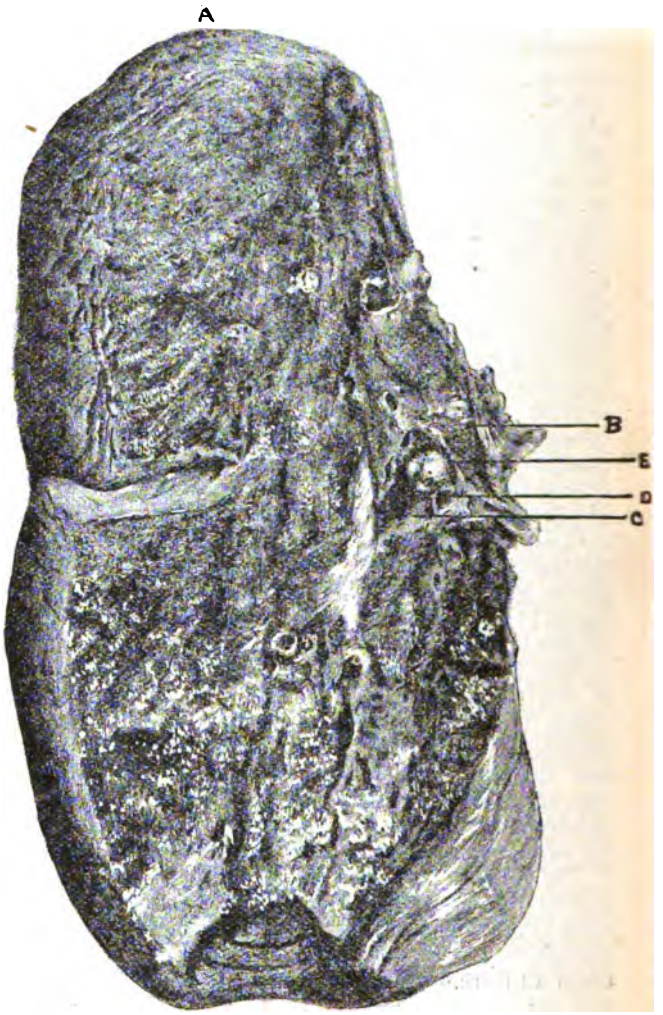


FIG. 2.—Photograph of a Normal Lung, showing Tubercles in an Enlarged Bronchial Gland. *A*, apex of lung; *B*, root of lung; *C*, enlarged bronchial gland above left bronchus; *D*, *E*, two tubercles in gland.

jected in the usual way into a healthy rabbit, which at the autopsy showed the characteristic lesions of a general tuberculosis, proving that the enlarged glands contained tubercle bacilli. The posterior part of gland *C* was cut into and presented the gross appearance of a chronic tubercular process, with caseation and fibroid changes.

It is possible, although hardly probable, that in the cases where the lungs were examined very carefully for the slightest trace of a recent or old tubercular process, the tubercle bacilli might have reached the glands after first having lodged in the pulmonary parenchymata, setting up so slight or so localized changes as to be overlooked, then to be carried by the lymphatics to the glands at the root of a lung. It seems much more probable that the bacilli reach the glands through the lymphatics of the mucous membrane, of the trachea, of the large bronchi, or even of the smaller one. Since the bronchial veins return the blood to the right heart, and so back to the lungs, may not the development of an acute pulmonary tuberculosis from infected bronchial glands be explained by the venous blood system taking up some elements from a softened, cheesy, lymphatic gland and

carrying this substance to the lungs? An exact reproduction is here given of the photograph of a lung removed from a person who died of an acute non-tubercular disease. Dr. T. M. Prudden kindly furnished me with the specimen. The lung was perfectly normal, and was laid open by a vertical incision from apex to base, and includes the structures at the root of the lung. At the root of the lung, just above a large bronchus, is seen an enlarged bronchial gland, 4 ctm. in length and 3 ctm. in width, pigmented, dense, and firm. In its upper part are seen two large tubercles, one the size of a small cherry, which on microscopical examination presented the characteristic appearances of a tubercular mass. The autopsy and microscopical examination of the case were conducted by Dr. T. M. Prudden, and no tubercular lesions were found, after careful examination, in any part of the body.

Here was unquestionably primary tuberculosis of the bronchial glands. How long the tubercle bacilli were in this gland it is impossible to say, as well as how long they would have remained there comparatively harmless. Analogous cases are found in encysted cheesy masses at the apex of the lungs, which remain long after physical signs and rational symptoms point to any change. How great the danger must be while the bacilli are present in the organism, no matter how apparently circumscribed they appear to be, anyone can see. The demonstration of the tubercle bacilli confined to the bronchial glands would explain the manner in which they might gain entrance into the lymph or blood-current, and so be carried to a point furnishing a fit soil for their development. And right here may be the explanation of tubercular joint disease and tubercular meningitis. Also, may not these experiments furnish an explanation of the development of pulmonary tuberculosis in persons with no hereditary physical tendencies, who, at the time of its development, are under the best hygienic conditions, in whom the tuberculosis seems to be excited by an acute, simple, bronchial catarrh, or by some other acute, non-tubercular, pulmonary disease?

It was with the hope of obtaining some facts which might throw light upon these questions that a series of autopsies was undertaken on persons who had died suddenly, either from accident or from acute non-tubercular disease.[1]

In all such cases a careful examination was made of each organ, especially the lungs, for evidences of old tubercular processes; if none were found, then the bronchial glands were removed, and placed in melted paraffine, so that the hot paraffine would destroy all putrefactive bacteria that might contaminate the surface of the glands, and would render them sterile until an animal could be inoculated with their substance. Within half an hour after removal the glands were taken from the hardened paraffine, washed with a bichloride solution, and reduced to a pulp in a sterilized crucible, to which a small amount of distilled water was added to render the fluid obtained from the glands thin enough to pass through the needle of a sterilized Koch syringe. About two cubic centimetres of the fluid which had been obtained from the pulverized bronchial glands were then injected into the right pleural cavity of a healthy rabbit. The rabbit was kept under the best hygienic surroundings, and if it did not die before the end of six weeks was killed by being bled to death. A careful record was kept of the autopsy of the rabbit, and of the microscopical examination of the organs. If the first rabbit at the autopsy showed evidence of tuberculosis, a second rabbit was inoculated, under antiseptic precautions, with material obtained from the first, to determine positively the character of the lesions found in the rabbits which were inoculated with the bronchial gland substance. Eleven rabbits died within twelve hours to six days, either from a faulty inoculation, too large a quantity of fluid being used, the animal being injured by the needle of the syringe, or possibly because the glands had undergone decomposition, the autopsy on the body from which they were removed having been made too late. From these cases no conclusions could be reached, and they are not included in the list of experiments.

The question might arise, in determining the presence of the tubercle bacilli in the bronchial gland, instead of inoculating animals with the material of the glands, why not cut sections of these glands and stain them for the tubercle bacilli? The reasons, to my mind, are two, viz., in the first place, the bacilli in the glands may be so few and scattered that it might necessitate a hundred sections being made to obtain, under the microscope, that portion of the gland containing the bacilli; and, secondly, in the appreciation of a small number of bacilli a personal factor comes in—one observer affirming their presence, while to another they are obscure. In answer to the objection that the material may have become contaminated before its inoculation into the animal, it may be stated that all the steps of the operations were conducted under the strictest antiseptic precautions, even to the removal of the glands from the dead body by sterilized instruments.

Eight out of the thirty persons on whom autopsies were made had in their bronchial glands active tubercle bacilli. None of the persons presented any evidence of old or recent tubercular process, yet the bacilli were within the bronchial glands, ready to enter the general lymphatic system of the lungs and set up a localized pulmonary tuberculosis, or by entering the general lymph or blood-current give rise to a general tuberculosis.

The following is a report of the cases upon whom autopsies were made, with the result of the inoculation experiments upon rabbits:

CASE I.—An intoxicated woman was taken during the night to a police station and locked up in a cell. On the following morning she was found lying on the floor unconscious. Before medical aid could be summoned she died.

Autopsy, ten hours after death. The body was well nourished, and apparently in the prime of life. The kidneys were cirrhotic. There was slight thickening along the base of the aortic valve. No tubercular process, either old or recent, was found in any portion of the body.

One large and four small normal-looking bronchial glands were removed.

Inoculation Experiments and Results.—The glands were prepared in the ordinary way. Three c.c. of the fluid were injected into the right pleural cavity of a healthy rabbit. Forty-five days afterward the rabbit, much emaciated, was killed. Both lungs, liver, spleen, and kidneys were completely studded with small, gray, miliary tubercles. The mesenteric glands were similarly involved. Tubercle bacilli were found in a section cut from the liver and lung. A pure culture on potato was made from the rabbit.

The single enlarged bronchial gland removed from this woman, which measured one-half inch by one inch, had all the appearance of an old tubercular process. As the rest of the glands appeared normal, it seems probable that the infection of the rabbit came from this enlarged gland. This rabbit at the autopsy presented similar lesions to those found in rabbits inoculated with a pure culture of the tubercle bacilli.

CASE II.—G. J——, aged thirty-two, a prize-fighter, who had come from California to give exhibitions in New York, was seized, upon his arrival here, with a chill, developed lobar pneumonia, and died on the seventh day of the disease.

Autopsy, made thirty-six hours after death. All the organs were found in a normal condition with the exception of the lower lobe of the left lung, which presented the ordinary appearance of the second stage of lobar pneumonia. There were no pleuritic adhesions, nor any

[1] My position as Curator of Bellevue Hospital, and the courtesy of the city coroners, enabled me to obtain autopsies on this class of cases.

evidence in any organ of the body of an old tubercular process. Four bronchial glands were removed, one of them being fully three times the normal size.

Experimental Inoculation and Results.—Immediately after removal 2 c.c. of the fluid obtained from the bronchial glands were injected into a healthy rabbit. Seven and a half weeks later the rabbit was killed. At the time of the inoculation the needle had pierced the diaphragm, and the injected material had entered the peritoneal cavity and infected the glandular system of the phrenic centre, resulting in a localized tuberculosis. On opening the abdomen a mass of three large grayish-white nodules, the largest measuring one inch and a half in diameter, was found on the anterior superior surface of the liver. On the under surface of the diaphragm, connected with these, were fifteen to twenty small cysts, filling the upper and right side of the abdominal cavity. In each cyst was a small cheesy mass. The large nodules were found, after careful dissection, to be enlarged glands of the phrenic centre, while the small ones were dilated mesenteric lymphatics. Eight small, white, round nodules were embedded in the right and left lobes of the liver. In these nodules tubercle bacilli were found by the Koch-Erlich method of staining. The rest of the organs were perfectly normal, with the single exception of the lower lobe of the right lung, which contained a small translucent nodule.

A second rabbit was inoculated in the right pleural cavity with two small nodules removed from the first rabbit. Ten weeks later this rabbit was killed, and in both lungs were found a few miliary nodules which on microscopical examination proved to be tubercular. All the other organs were normal.

A man of perfect health, and of extraordinary strength and physical vigor, is suddenly seized with an acute disease, and dies on the seventh day, and is found to have had tubercle bacilli in his bronchial glands, the presence of which was demonstrated not only in stained sections, but by the results of the inoculations of rabbits. It would seem that the amount of virus in the second rabbit was so small that the animal readily overcame the infection.

Case III.—M. F——, aged thirty, was perfectly well until her confinement. After delivery she developed symptoms of puerperal septicæmia, and died on the ninth day.

Autopsy, made four and a half hours after death. All the organs were found in a normal condition, with the exception of the kidneys, which presented, under the microscope, moderate parenchymatous degeneration; and the uterus, which was enlarged, and contained a sloughy endometrium, with portions of the placenta still attached. The spleen was enlarged, soft, and pliable. Four slightly enlarged bronchial glands were removed.

Inoculation Experiments and Results.—A healthy rabbit was inoculated in the right pleural cavity with a syringeful of the fluid obtained from the crushed bronchial glands. The rabbit died at the end of five weeks. The right pleural cavity was covered with a dense fibrinous exudation, which compressed the lung, in whose lower lobe a small patch of consolidation was noted. The left pleural cavity contained some serum and fibrin at its lower part; the lung was normal. There were evidences of fibrinous pericarditis. The liver was studded with a number of small, white, translucent nodules, with cheesy contents. Microscopical examination of these nodules failed to reveal tubercle bacilli.

Five cubic centimetres of the fluid obtained from five of these nodules were injected into the pleural cavity of a healthy rabbit, which was killed at the end of nine weeks and found to be in a perfectly normal condition.

While the nodules found in the liver of the rabbit presented an appearance resembling tubercular nodules, the control experiment showed conclusively that they were non-tubercular.

Case IV.—J. R——, aged forty, a street vender, while following his business pushed a cart before him about the streets. As he sat on the curb-stone with his cart in front of him, on the afternoon of May 17th last, a truck was driven against the cart, the handle of which struck him in the chest. He fell over and died almost instantly.

Autopsy, twenty-four hours after death. All the organs were normal. The man had died from fracture of the second, third, and fourth ribs, the vena cava being ruptured by the ragged edge of one of the ribs, filling the pericardial and pleural cavities with blood.

Five bronchial glands of normal appearance were removed.

Inoculation Experiments and Results.—A healthy rabbit was inoculated on May 19th, the glands having been kept over night in hardened paraffine. On July 18th the rabbit was killed, and all its organs were found in a normal condition.

This case proved, firstly, that the bronchial glands contained no tubercle bacilli, and, secondly, that the glands remained perfectly sterile for twenty-four hours in the paraffine.

Case V.—J. E——, aged thirty, was admitted to Bellevue Hospital on May 27th, in the eighth month of pregnancy. She had been in perfect health until two weeks previous. At the time of admission she presented the symptoms of puerperal uræmia. Four days later labor was induced and a dead child delivered. On the following morning uræmic coma was complete, and she died in the evening.

Autopsy, made twenty-four hours after death. All the organs were normal except the kidneys, which presented the characteristic changes of acute parenchymatous nephritis. No evidences of old or recent tubercular changes were found.

Inoculation Experiments and Results.—Three bronchial glands which had been removed were crushed and diluted with distilled water. Two cubic centimetres of the solution were at once injected into the right pleural cavity of a healthy rabbit. After July 14th the rabbit showed signs of failing health, and on July 24th it was killed. The pleural cavities were normal. A cheesy bronchial gland, as large as a small cherry, filled the posterior mediastinum. An old tubercular infiltration, which seemed to antedate the enlarged gland, involved the apex of the right lung. A small circumscribed eruption of recent tubercles involved the upper portion of the left lung. The rest of both lungs was normal. In the liver a few small miliary tubercles were seen on the surface, while the spleen, stomach, and intestines were completely studded with miliary tubercles.

The apparently normal bronchial glands of this young woman, who had been in perfect health until a short time before death, and living under good hygienic surroundings, furnished a solution which, when injected into a healthy rabbit, produced general tuberculosis. At the autopsy this rabbit presented appearances similar to those which are found in rabbits inoculated with a pure culture of the tubercle bacilli, and in its turn furnished, on sterilized potatoes, an equally pure culture of the bacilli.

Case VI.—G. W——, aged thirty-eight, who had been drinking heavily for three weeks, was found in an unconscious condition on the street, and taken to the alcoholic ward of Bellevue Hospital. He died in four hours.

Autopsy, made ten hours after death. No lesion was found in any of his organs, with the exception of the brain, which presented the characteristic appearance of the "wet brain;" and the pancreas, which was twice the normal size, and, under the microscope, showed extensive areas of hemorrhagic necrosis. There were no evidences of any tubercular processes in any part of the body. Six small bronchial glands were removed.

Inoculation Experiments and Results.—A healthy rabbit was inoculated with 1½ c.c. of the fluid obtained from the glands. At the end of six weeks the rabbit was

killed, and every organ was found in a perfectly healthy condition. The microscopic appearance of the pancreas resembled to some degree the appearance produced by tuberculosis, but a number of sections made from various portions of the organ showed that the necrotic-looking areas were composed of degenerated fibrin and blood-corpuscles, with some broken-down pancreatic tissue. No microscopical resemblance to tubercles was found. This case was presented before the New York Pathological Society.

CASE VII.—Frederick W——, aged thirty-five, of robust physique, who had been in the habit of going on periodical sprees for the past six years, was brought into Bellevue Hospital with the symptoms of acute alcoholism, and died twenty hours after admission.

Autopsy, ten hours after death. The kidneys presented the lesions of chronic interstitial nephritis; the left heart was hypertrophied; the pericardial sac contained eight ounces of clear serum, and the brain presented the ordinary appearance of the "wet brain" of alcoholism. The other organs were normal and no old or recent tubercular lesions were found. Six bronchial glands were removed, one of which was greatly enlarged.

Inoculation Experiments and Results.—A healthy rabbit was inoculated in the right pleural cavity with 3 c.c. of the fluid obtained from the glands, and was then turned loose in the yard. Eight weeks later the rabbit was killed, and the right lung showed the characteristic lesions of diffuse tubercular infiltration most marked in the lower lobe. The right lung was less extensively but similarly involved. In many places in both lungs the tubercular infiltrations had undergone cheesy changes. On the parietal pleura were seen a few typical tubercles. The other organs presented a normal appearance.

The lesions found in the inoculated rabbit were so characteristic of tuberculosis that a control inoculation seemed unnecessary, and it was not performed.

CASE VIII.—J. D——, aged sixty, was in perfect health until six days before his death, when he suddenly became unconscious, and presented the usual symptoms of cerebral apoplexy.

Autopsy, made twenty hours after death. All the organs were found normal, except the heart and brain. The heart showed slight atheroma of the aortic valves, with moderate dilatation of the left ventricle. The brain contained in its left hemispere a recent blood-clot, which involved the second and third frontal convolutions. No evidence of tuberculosis was found in any part of the body.

Inoculation Experiments and Results.—A healthy rabbit was inoculated in its peritoneal cavity with 4 c.c. of the fluid obtained from six bronchial glands. Six weeks afterward the rabbit died, and a localized chronic peritonitis was found, limited to the upper portion of the abdominal cavity. There were cheesy masses containing pus over the liver and stomach, which presented all the microscopical appearances of tubercular abscesses, but repeated examination of these masses failed to reveal the presence of any tubercle bacilli. The abdominal glands were enormously enlarged; with this exception, the rabbit presented a normal appearance. A second rabbit inoculated died at the end of six days from septic infection.

There is no evidence that the bronchial glands removed from this case contained tubercle bacilli; the animal inoculated evidently died of non-tubercular peritonitis.

CASE IX.—George E——, aged thirty-eight, stevedore, while engaged in unloading a vessel, was instantly killed by the falling of a beam.

Autopsy, made twenty hours after death. All the organs were found in a normal condition, with the exception of extensive adhesions over the upper lobe of the left lung. A careful examination failed to reveal any old or recent tubercular processes. Death was due to an extensive depressed fracture of the skull, beneath which was a large hæmatoma. There was also fracture of three of the ribs. Six normal-looking bronchial glands were removed.

Inoculation Experiments and Results.—A healthy rabbit was inoculated in the right pleural cavity with 5 c.c. of the fluid obtained from the glands. Eight weeks later the rabbit was killed, and with the exception of adhesions and pigment deposits (from the injected fluid) over the lower lobes of the right lung, all the organs were in a normal condition. In this case the large amount of fluid injected seemed to have excited an adhesive pleurisy. The fluid was absorbed, but the pigment derived from the bronchial glands, in this, as in many of the other cases, remained at the bottom of the pleural sac, or was distributed along the lymphatic vessels of the pleura in delicate black lines. The lungs presented no evidence of tuberculosis.

CASE X.—D. M——, aged sixty-six, who had suffered over a year with cardiac symptoms, died suddenly.

Autopsy, made eighteen hours after death. Extensive disease of the aortic and mitral valves was found, with dilatation and hypertrophy of the left ventricle. The liver and kidneys were small and cirrhotic. With the exception of intense congestion and œdema of the lower lobes, the lungs were perfectly normal. Six bronchial glands were removed, one of which was very large, pigmented and fibrinous looking.

Inoculation Experiments and Results.—Four cubic centimetres of the fluid obtained from the glands were injected into the right pleural cavity of a healthy rabbit. At the end of six weeks the rabbit, which had become very much emaciated, was killed. The left lung was normal, but the right was completely consolidated, and bound to the chest-wall. Single and collected nodules projected from the surface, and studded the pulmonary tissue. Three small cavities were noted at the base. A nodule as large as an olive, containing grumous material and creamy-looking pus, completely filled the right lobe of the liver. Two nodules, the size of millet seeds, were found in the right kidney. The mesenteric glands were enlarged and pigmented. A second rabbit was inoculated in the right pleural cavity with material obtained from the first, and died at the end of seven weeks, with the characteristic lesions of miliary tuberculosis.

CASE XI.—James D——, aged forty-six, of strong, vigorous physique, was admitted to the hospital with the symptoms of lobar pneumonia, and died on the fourth day of the disease.

Autopsy, made twelve hours after death. The kidneys showed the lesions of a moderate amount of interstitial nephritis. The liver was fatty and cirrhotic. The lower lobe of the right lung was in the third stage of pleuro-pneumonia. The other organs were normal, and no evidence of old or recent tubercular lesions could be found. Six bronchial glands were removed. One was enlarged, and contained a calcareous mass.

Inoculation Experiments and Results.—The glands were prepared in the usual way immediately after removal, and 4 c.c. of the fluid obtained were injected into the right pleural cavity of a healthy rabbit. Six weeks afterward the rabbit was killed, and with the exception of complete obliteration of the right pleural cavity by organized adhesions, and a collection of pigment in its lower portion, all the tissues were in a normal condition.

There is no evidence that in this case the bronchial glands contained tubercle bacilli, although one gland was very much enlarged, and contained a calcareous mass, showing that it must have been at some time the seat of cheesy metamorphosis. These glands were not placed in paraffine in the usual way, yet no septic infection of the rabbit followed the inoculation, and the large amount of fluid injected (5 c.c.) produced no other result than an acute adhesive pleurisy.

CASE XII.—Fanny W——, aged seventeen, when in excellent health, was attacked with acute pericarditis and died on the sixth day.

Autopsy, made fourteen hours after death. All the organs were perfectly normal, except the heart, which presented the usual characteristic lesions of acute serofibrinous pericarditis. A careful examination of the lungs and pericardium excluded the possibility of tubercular infection. Five normal-sized bronchial glands were removed.

Inoculation Experiments and Results.—Three cubic centimetres of the fluid obtained from the glands were injected into the right pleural cavity of a healthy rabbit. Ten weeks afterward the rabbit was killed. All the organs were found normal, except the liver, which contained the cicatrix of an old abscess, and a few nodules of cheesy degeneration. The right pleural cavity contained a small amount of clear serum. One of the larger nodules from the liver was inoculated into the right pleural cavity of a healthy guinea-pig. At the end of ten weeks the animal was killed, and its organs were found perfectly normal.

This case not only showed that no tubercle bacilli were demonstrated in the bronchial glands removed from the young woman, but that the pericarditis was non-tubercular.

CASE XIII.—Robert H——, aged twenty, was in perfect health until attacked with typhoid fever. In the third week of the disease he died.

Autopsy, made eighteen hours after death. Ulcers were found along the lower portion of the small, and the beginning of the large, intestines, but they did not have the characteristic appearance of typhoid ulcers. The spleen was enlarged and softened, and from its substance a pure culture of the typhoid bacillus was obtained in gelatine, proving definitely the character of the disease. The rest of the organs were normal, with the exception of a number of easily detached adhesions which bound the right lung to the chest-wall.

Six small bronchial glands were removed, also four inguinal glands.

Inoculation Experiments and Results.—Immediately after the removal the bronchial and inguinal glands were reduced to pulp in separate crucibles, and 4 c.c. of the fluid obtained from each were injected respectively into the right pleural cavities of two healthy rabbits. Six weeks later the rabbits were killed, and the organs in both were found normal. In this case the inguinal glands were removed, together with the bronchial, in the hope of ascertaining whether, if the latter should prove to be tubercular, the inguinal would be similarly infected. A second series of experiments are now being conducted, with the object of ascertaining whether in cases where the bronchial glands contain no tubercle bacilli they may be lodged in other glands of the body.

CASE XIV.—A. D——, aged thirty-four, farmer, was admitted to Bellevue Hospital June 22d, after an illness of sixteen days. The diagnosis of trichina poisoning was made. The patient died on the fourth day after admission.

Autopsy, made four hours after death. The tissues were found normal, with the exception of some of the voluntary muscles and the intestines. Microscopical examination of the muscles showed encysted trichinæ. No tubercular process was found on any part of the body.

Eight bronchial glands of normal appearance were removed.

Inoculation Experiments and Results.—The glands remained in paraffine for twenty-four hours, when a healthy rabbit was inoculated with 3 c.c. of the fluid obtained. Nine weeks later the rabbit was killed, and all its organs were found normal.

CASE XV.—F. F——, aged forty-five, was found dead by the police on the sidewalk of one of the down-town streets.

Autopsy, made fourteen hours after death. The kidneys were typical examples of the "small cirrhotic kidney." The left heart was hypertrophied and showed no valvular lesion. The lungs were normal, and no evidence of any old or recent tubercular process was found in the body. The brain was not examined.

Experimental Inoculation and Results.—The four bronchial glands removed were slightly enlarged and very much pigmented. Three cubic centimetres of the fluid obtained were injected into the right pleural cavity of a healthy rabbit. Eight weeks later the rabbit, which had become much emaciated, was killed. Free pigment was found in the left pleural cavity, and over the surface of the lungs. Both lungs were firmly bound to the chest-walls by old adhesions, and in places fresh hemorrhages had occurred. A nodule the size of a pea was imbedded in the lower lobe of the left lung; about this was an extensive area of consolidation. The remainder of the lungs and the other organs were normal, with the exception of the liver, which contained six nodules, varying in size from a pin-head to a small cherry, with also a number of collections having the appearance of grains of sand. Microscopical examination of one of the larger nodules failed to reveal any tubercle bacilli.

The five larger nodules were reduced to pulp, the fluid was diluted, and 3 c.c. were injected into the right pleural cavity of a healthy rabbit. At the end of seven weeks the rabbit was killed, and the right lung was found studded, especially in the lower lobe, with miliary tubercles. A number were also found in the liver and spleen, but none in the left lung.

The result of the inoculation of the second rabbit proved the impossibility of a positive diagnosis of the lesions in the first rabbit, by microscopical examination alone. The processes in this second rabbit were plainly tubercular, and the gland removed from the man proved to contain the tubercle bacilli.

CASE XVI.—Unknown man, aged about thirty-eight, was brought into Bellevue Hospital by ambulance. He died within eight hours and no history was obtainable.

Autopsy, twelve hours after death. The lungs were normal and no evidence of any tubercular process was found anywhere in the body. The man died from a rupture of an aneurism of the transverse portion of the arch of the aorta. Seven bronchial glands were removed, one of which was very much enlarged (two inches in diameter). One-third of this gland was preserved to examine microscopically for tubercle bacilli if the inoculation experiments should show that the rabbit died of tuberculosis.

Inoculation Experiments and Results.—Five cubic centimetres of the fluid obtained from the glands were inoculated in the usual way into a healthy rabbit. Three weeks after inoculation the rabbit had a litter of five healthy young. The rabbit was killed at the end of eight weeks and all the organs were found in a healthy condition.

CASE XVII.—Bridget N——, aged forty-eight, for a number of years a helper at the almshouse, while under the influence of liquor took by mistake an overdose of morphine and died within six hours.

Autopsy, twenty-four hours after death. All the organs presented by their gross appearance a normal condition, with the exception of an old patch of softening in the frontal lobe of the brain. Six bronchial glands were removed, one was enlarged and fibrinous looking, another contained a black, soft mass which looked like coagulated blood.

Inoculation Experiments and Results.—A healthy rabbit was inoculated with 3 c.c. of the fluid obtained from the glands. The rabbit was killed by an accident at the beginning of the fifth week of inoculation. An autopsy was at once made and, with the exception of localized adhesions over the right lung, all the organs were normal.

CASE XVIII.—Patrick M——, aged thirty-two, fell by accident from one of the wharves into the East River. He was rescued within a few minutes, but in spite of prompt treatment died at the end of two hours.

Autopsy, made ten hours after death at the request of the coroner. The man was of fine physique and in perfect health, all his organs being in normal condition.

The lungs presented the characteristic appearance of death by drowning.

Inoculation Experiments and Results.—Two and one-half cubic centimetres of fluid which was obtained from ten normal-looking bronchial glands removed from the case were injected into the right pleural cavity of a healthy rabbit. Seven weeks later the rabbit was killed and all the organs were found in a normal condition. There were no adhesions or pigment deposits to show where the needle was introduced.

CASE XIX.—Rosa S— —, aged forty, was found drowned at the foot of Morton Street. Nothing of her previous history is known.

Autopsy, made twenty four hours after body was found. The woman was robust looking and apparently had not been in the water many hours. All the organs were in a normal condition with the exception of the heart, which showed excessive left ventricle hypertrophy with no valvular lesion. Many of the arteries and especially the aorta were atheromatous. Five large gall-stones were found encysted in the gall-bladder. Ten bronchial glands were removed, one of which was very large and contained a cheesy mass the size of a cherry in its centre.

Inoculation Experiments and Results.—Three cubic centimetres of the fluid obtained from the glands, together with the cheesy centre of the enlarged gland, we reinjected into a healthy rabbit. Nine weeks later the rabbit was killed. It was found that the fluid had been injected by mistake into the upper portion of the peritoneal cavity behind the right lobe of the liver. At the point of inoculation there was no evidence of any inflammatory change beyond a small patch of prithysabitis. The lymphatics of the posterior abdominal wall were beautifully mapped out by the pigment derived from the glands. All the organs of the rabbit were in a perfectly healthy condition. This case shows two interesting points: First, that the enlarged cheesy gland contained no tubercle bacilli, for the whole mass was reduced to a fluid and injected; second, that the injection was perfectly harmless, producing no inflammation or adhesions.

CASE XX.—Michael F——, aged forty-five, died of lobar pneumonia, on the seventh day of the disease. Before his last illness he had always enjoyed the best of health.

Autopsy, twenty-eight hours after death. The lower lobes of both lungs were in the second stage of lobar pneumonia. Old adhesions bound the left lung in places to the chest-wall. With these exceptions all the organs were in a normal condition. Eight fibrinous looking, but only slightly enlarged, bronchial glands were removed.

Inoculation Experiments and Results.—Five cubic centimetres of the fluid obtained by preparing these glands in the usual way were inoculated into a healthy rabbit. Seven weeks afterward the rabbit was killed, and at the autopsy the following condition was found: The right lung was bound to the chest-wall throughout its whole extent. Four or five masses projected from the surface and extended into the substance of the lower lobe of the right lung. These nodules were surrounded by consolidated areas and had all the appearance of being tubercular. There was a mass the size of a large cherry behind the lungs which contained a whitish cheesy material. This I believe to have been an enlarged tubercular bronchial gland, although stained cover-glass preparations of the cheesy material failed to reveal any tubercle bacilli. The left lung was normal, as were also the abdominal organs.

A rabbit which had been inoculated from the first rabbit died by an accident before any conclusion could be reached, so we have no positive way to prove that the lesions of the first rabbit were tubercular. From a careful examination of a number of sections I feel almost certain that the changes found were those of a localized tuberculosis, but I have not included this case with those which had tubercle bacilli in their bronchial glands.

CASE XXI.—S. C——'s child, aged two and a half years, was always perfectly well to within ten days of its death. The diagnosis of general capillary bronchitis was made, but the question of tuberculosis being raised an autopsy was requested.

Autopsy, made twelve hours after death. All the organs were found in a normal condition, with the exception of the lungs, which showed the lesions of catarrhal pneumonia secondary to a general bronchitis. No tuberculosis was found. Seven normal-looking bronchial glands were removed and kept for six hours wrapped in a cloth soaked in a solution of carbolic acid.

Inoculation Experiments and Results.—Three cubic centimetres of the fluid obtained from the glands were injected in the usual way into a healthy rabbit. Eight weeks later the rabbit was killed and all its organs were found in a normal condition. There was localized adhesion of the lung at the point where the needle pierced the chest cavity.

CASE XXII.—Mary M——, aged seventy two, died of senility, at the Workhouse hospital. She was well nourished and had been confined to her bed only one week.

Autopsy, made twenty-four hours after death. About a pint of clear serum was found in the right pleural cavity. The lungs were normal, with the exception of œdema and congestion of the lower lobes. The liver and kidneys both presented the lesions of an old interstitial change (cirrhotic). Five enlarged bronchial glands were removed.

Inoculation Experiments and Results.—Three cubic centimetres of the fluid obtained from the glands were injected into the right pleural cavity of a rabbit. The rabbit, which had remained perfectly well, was killed at the end of eight weeks. The thoracic organs were normal. The abdominal cavity contained a small amount of clear serum. Throughout the liver were a number of very small whitish-gray points, having very much the appearance of miliary tubercles. However, a microscopical examination of these masses showed that they were not tubercles, but small capillary infarctions (mechanical).

The enlarged glands removed from this case contained no tubercle bacilli, although the gross appearance of the lesions found in the rabbit's liver was very similar to that of tuberculosis. The microscopical examination, however, showed these not to be tubercular.

CASE XXIII.—Anna H——, aged twenty-two, was admitted to Bellevue Hospital suffering from cardiac disease. Her friends said she had been perfectly well to within two weeks of her admission, when she was obliged to take to her bed on account of shortness of breath and severe pain and palpitation over the heart. Cardiac asystolium was pronounced, and it was impossible to accurately diagnose the loud blowing murmurs heard over the præcordial region. She died at the end of ten days.

Autopsy, twenty-four hours after death. There was extensive ulceration and reversion of the aortic valve, with fibrinous deposits on the free surfaces. The lesion was apparently an acute ulcerative process engrafted on an old lesion of the aortic valve. All the rest of the organs were normal, with the exception of the lower lobes of the lungs, which showed the lesions of hypostatic congestion.

Inoculation Experiments and Results.—Eight bronchial glands of normal size and free from pigment were prepared in the usual way and 5 c.c. of the fluid were injected into a healthy rabbit. The rabbit died on the fortieth day after inoculation. At the autopsy it was found that the fluid had been introduced into the upper portion of the peritoneal cavity. An adhesive peritonitis had been set up, and a large abscess formed to the right and behind the liver filled with grumous pus. The thoracic organs were normal, although the abscess had not the appearance of a tubercular abscess. Still, to settle the question, a second rabbit was inoculated with some of its contents. All the organs of this rabbit, which was killed at the end of six weeks, were found normal. The bronchial glands removed from this case contained no tubercle bacilli, and the peritonitis and abscess found in the

inoculated rabbit were not tubercular, as was proven by the control experiment.

CASE XXIV.—Patrick B——, aged thirty-eight, had complained of heart trouble for a long period, but was able to be about and attend to his business to within eight days of his death. During the last week the symptoms of acute endocarditis developed, accompanied by high fever and a rapid pulse.

Autopsy, twenty hours after death. All the flaps of the aortic valve presented the lesions of an acute exudative process engrafted on a chronic lesion. In the lower lobe of the right lung, close to its root, was found a small circumscribed abscess, the result of an infarction, with this exception the lungs were perfectly normal. There were no evidences of any tubercular changes. Two large infarctions were found in the spleen, together with a few small ones in the kidneys. All the bronchial glands were very much enlarged and softened. The case was one of acute ulcerative endocarditis. Micrococci were found in stained sections cut from the aortic valve.

Inoculation Experiments and Results.—Fourteen bronchial glands were removed and 3 c.c. of the fluid obtained from them were injected into a healthy rabbit. After seven weeks the rabbit was killed. The lymphatics of the right pleural cavity were beautifully mapped out by the injected gland pigment. With the exception of localized adhesions at the point where the needle had pierced the chest cavity the lungs were perfectly normal. A few small nodules the size of a pin's head were found in the liver, but a microscopical examination showed them to be not tubercles but emboli in the vessels. This case showed by the inoculation experiments that the bronchial glands were free from tubercle bacilli, and also that the enlarged bronchial gland close to the embolic abscess in the lungs contained no septic micro-organisms, or not enough to cause the rabbit's death from septicæmia.

CASE XXV.—Michael M——, aged thirty-two, while in perfect health, fell from a third story window upon the pavement below and died immediately from fracture of the skull.

Autopsy, made twenty-eight hours after death. All the organs were found in a normal condition. Five bronchial glands were removed, one of which was about twice the normal size.

Inoculation Experiments and Results.—Five cubic centimetres of the fluid obtained from the glands were injected into the right pleural cavity of a healthy rabbit. Eight weeks afterward the rabbit, which had become emaciated, was killed. A large, completely encysted abscess was found filling the right pleural cavity, producing collapse of the lung. The cavity of the abscess contained a thick, grumous, whitish-gray pus, and had somewhat the appearance of a tubercular abscess. The left lung was normal, as also were the rest of the organs, with the exception of two or three suspicious little nodules in the liver. One of these, together with some of the fluid from the abscess was injected into the right pleural cavity of a second rabbit. This rabbit was killed at the end of two months, and all its organs were found in a perfectly normal condition. The pleural cavity showed no evidence of the injection.

The result of the inoculation of the second rabbit proved conclusively that the nodules and abscess found in the first rabbit were not tubercular, and also that even the enlarged bronchial gland removed from the man was free of tubercle bacilli.

CASE XXVI.—G. W——, aged thirty-five, went to bed in one of the uptown hotels in apparently perfect health. He blew out the gas and was found dead in the morning.

Autopsy, made thirty-two hours after death. Body well nourished, blood fluid, œdema and congestion of the lungs. There was thickening, but no adhesions, of pleura over right apex; with this exception the lungs were normal, as were all the rest of the organs.

Six bronchial glands were removed, all of them being very much enlarged, and one measured 4 inches in length and 1½ inch in diameter, and contained a cheesy, calcareous, tubercular looking mass.

Inoculation Experiments and Results.—Four cubic centimetres of the fluid obtained from the glands, including the cheesy mass found in the large gland, were injected into the right pleural cavity of a large healthy rabbit. Seven weeks later the rabbit was killed. It was well nourished and apparently healthy. Organized adhesions were found obliterating the right pleural cavity; the lung was collapsed. The appearance was as of an old pleurisy with absorption of the fluid. The lung was normal, as were the rest of the organs. No evidence of tuberculosis was found anywhere.

In this case all the bronchial glands were greatly enlarged, and one had the appearance of being tubercular. Still, the inoculation experiment proved it not to be so. This case shows how one might be led into error by relying upon gross appearance alone.

CASE XXVII.—Female, aged fifty, was found in the street in a stupid condition, due, as supposed, to the effects of liquor. She was brought to the hospital by ambulance where she died at the end of twelve hours, without regaining consciousness.

Autopsy, thirty-six hours after death. In the brain were found two small clots; one involving the anterior and under portion of the occipital lobe on the right side, the other the island of Reil and the overlapping parietal lobe. All the cerebral arteries were atheromatous. The left ventricle was markedly dilated; there were no valvular lesions. Kidneys cirrhotic; liver slightly "fatty." There were a few old adhesions over both lungs, but no old or recent tubercular changes were found in their substance. Ten bronchial glands were removed, about normal in size and very much pigmented. Two of the glands were about three times the normal size and fibrinous looking.

Inoculation Experiments and Results.—The glands were prepared in the usual way. Two cubic centimetres of the fluid were injected into a healthy rabbit. Seven weeks after inoculation the rabbit was killed. The right pleural cavity presented a normal appearance, except where the needle was introduced. There was connective tissue increase, and on the costal pleura were ten or fifteen tubercles the size of a pin's head. In the right lung a number of tubercular nodules, varying in size from a pin's head to a pea, were found; one of these nodules was quite large and contained a cheesy centre. In the left lung only a single small tubercular mass was found. A few tubercles were found in the substance and on the inferior surface of the left lobe of the liver. The rest of the organs were normal.

This patient was stricken down in the street with an apoplectic stroke, and was, as far as could be learned from her friends, in good health at the time of her death. The lesions found in the rabbit inoculated with the bronchial glands were so characteristic and so evidently started at the point of injection that an inoculation of a second rabbit was not deemed necessary.

CASE XXVIII.—George M——, aged thirty-five, was admitted to Bellevue Hospital May 2d. He had been sick, as he expressed it, "off and on" for nearly a year. For the past month he had been confined to the house and unable to work. There were well-marked symptoms of cardiac disease and an excessive enlargement of the liver and spleen. Two weeks after admission the patient died, becoming intensely jaundiced toward the last.

Autopsy, made twelve hours after death. The lungs were perfectly normal, with the exception of some old adhesions over the right side, especially at the apex, and an encysted fibrinous looking nodule the size of an olive at the left apex. The heart showed the lesions of an acute endocarditis engrafted on a chronic lesion. The liver weighed eleven and one half pounds and was amyloid, as was also the spleen. No tubercular lesions were found anywhere in the body, with the exception of the

nodule at the apex, which presented the appearance of a healed phthisis. Ten bronchial glands of normal size, and with the exception of two, of normal appearance, were removed. On opening these two glands, small cheesy masses were seen scattered throughout the gland; by squeezing the gland they protruded, as "little white worms." Eight of the enlarged mesentric glands were also removed.

Inoculation Experiments and Results.—Four cubic centimetres of the fluid obtained from the bronchial glands were injected in the usual manner into a healthy rabbit, and another rabbit was also inoculated with equal amount of fluid obtained from the mesenteric glands. Six weeks later the first rabbit was killed and all the organs were found to be healthy. A small mass was found attached to the ribs at the point of puncture. There were no adhesions and an examination showed it to be composed entirely of new connective tissue.

The rabbit inoculated from the mesenteric glands was also killed, and all its organs were found in a normal condition.

A microscopical examination of the nodule found in the lungs showed the ordinary appearances of a tubercular process which had been recovered from by new connective tissue formation. The experiments proved, first, that if the bronchial glands had ever contained tubercle bacilli, they were free from them at the time of death, and that the white cheesy masses found in two or three of the glands were non-tubercular in character, second, that the mesenteric glands contained no tubercle bacilli.

CASE XXIX.—Henry F——, aged forty-eight, died after a prolonged sickness of advanced cardiac and Bright's disease.

Autopsy, made twenty hours after death. There was cardiac hypertrophy and dilatation with extensive lesions of the mitral valves. The lungs were normal, with the exception of an infarction, the size of a small apple, in the lower right lobe, which had gone to the formation of an abscess. The liver and kidneys were cirrhotic; all the tubercular glands were very much enlarged, soft, and extensively pigmented.

Inoculation Experiments and Results.—Three cubic centimetres of the black fluid obtained from ten of the glands were injected into a healthy rabbit. At the end of six weeks the rabbit was killed. A circumscribed, dense, pigmented mass was found on the surface and extending for a slight distance into the substance of the lower lobe of the right lung. There were no adhesions, but most of the lymphatics of the pleura on the right side were filled with pigment.

The mass in the lungs was due to the needle piercing the lung substance and setting up an inflammation which ended in the formation of new connective tissue. All the organs were normal and no evidence of tuberculosis was found.

I think the excessive enlargement of the bronchial glands in this case was due to the absorption from the encysted abscess cavity. They certainly contained no tubercle bacilli, nor did the rabbit show any of the lesions of septic infection from the glands.

CASE XXX.—Nora S——, aged seventy, who had been a helper in the wards of Bellevue Hospital for over a year, suddenly became unconscious and died from what was supposed to be apoplexy.

Autopsy, made fourteen hours after death. The cause of death was found to be due to a hemorrhage into an old degenerated area in the corpus striatum. There was also excessive cardiac dilatation. The lungs were perfectly normal, with the exception of excessive pigmentation. Eight bronchial glands were removed, one of which was very large and fibrinous looking; all were dense and pigmented.

Inoculation Experiments and Results.—Two cubic centimetres of the fluid obtained in the usual way from the glands were injected into a full-grown, healthy guinea-pig. One week after inoculation the animal began to lose flesh and appetite, and failed steadily in health for two months after inoculation, at which time it was killed.

The animal was very much emaciated. On opening the chest both lungs were found studded with tubercles, and tubercles the size of a pin's head were seen all over the costal and diaphragmatic pleura and both surfaces of the pericardium. The liver and spleen were completely destroyed by cheesy, tubercular masses.

This is one of the most interesting cases collected. The woman was under observation for a long time and always seemed to be perfectly well, although somewhat enfeebled by her age. She spent her time in a ward where there were many phthisical cases. She died suddenly. Her lungs were normal, being even entirely free from adhesions. One bronchial gland was very much enlarged, and was the seat of a chronic inflammation. This gland unquestionably, and possibly also some of the normal sized ones removed, contained tubercle bacilli, as the animal inoculated died of well-marked general tuberculosis.

General Review of Cases.—The period of experimentation extended over eighteen months. During this time the substance from the bronchial glands removed from forty-eight persons was injected into healthy rabbits, which were kept under the best hygienic conditions. The majority of these forty-eight persons died suddenly, and none of them after a prolonged illness. A careful examination of all the organs in such persons failed to reveal any old or recent tubercular process. Eighteen of the forty-eight experimental inoculations were failures, for the rabbits died before any tubercular infection, if present, could have shown itself, consequently these have not been included in the thirty from which my conclusions are drawn. The bronchial glands removed from eight of the thirty cases contained tubercle bacilli, as demonstrated by the development of tuberculosis in rabbits inoculated with the substance of the bronchial glands. In five of these eight cases death occurred suddenly from accident, while they were in apparent health, and none of the thirty, with two exceptions, were sick more than ten days. Three of the twenty-one negative cases caused lesions in the inoculated rabbits, which resembled so closely tubercular nodules that the inoculation of a second rabbit was necessary to determine their non-tubercular character. The results of the inoculation of the gland substance in Case II. illustrates in a striking manner the possible presence of tubercle bacilli in the bronchial glands in persons of strong and vigorous physique, and in the fullest physical activities of adult life. Cases I. and V. furnished, in the fluid obtained from their bronchial glands, enough tubercle bacilli to set up in the rabbits inoculated a military tuberculosis, from which pure cultures of the tubercle bacilli were made on sterilized potatoes.

Cases VII. and X. both produced in the rabbits inoculated a profuse pulmonary tuberculosis.

While the gland substance in Case XV. contained tubercle bacilli, the lesions found in the first rabbit could only be rendered positive by the inoculation of a second rabbit. In almost all the cases inoculated the pigment contained in the glands was seen in the rabbits at the point of injection, and it spread out along the lymphatic channels, which were beautifully mapped out by it.

There is one point we must not lose sight of in the analysis of these cases: they were principally taken from the lower walks of life, most of them hospital cases. Such persons must necessarily be surrounded by impure air, and are more exposed to the possible inhalation of tubercular bacilli in large numbers than are those who, in large and well-ventilated apartments, live under better hygienic surroundings.

Case XXVII. furnished bronchial glands from a person suddenly stricken with apoplexy in apparently perfect health. These glands contained tubercle bacilli, which would have caused the death of the inoculated animal from tuberculosis if it had been permitted to live long enough.

Case XXX. is exceedingly interesting from two facts: First, the patient had spent the last year of her life in apparently good health in a hospital ward, surrounded by phthisical patients. She died suddenly. Second, her bronchial glands furnished such an intense tubercular virus as quickly to overpower the inoculated animal by a general tuberculosis.

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A CONTRIBUTION TO THE STUDY OF NIGRITIES.

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THIS disease, variously known as nigrities, glossophytia, black tongue, or glossitis parasitica, is one which is not commonly met with. The writer having recently had the opportunity of treating a case, herewith presents a report of it.

Mrs. X——, aged thirty-one, had been under treatment for sciatica, and claims to have only been relieved by the use of opiates, which she took in the form of suppositories. She had consulted the writer in regard to a disordered stomach, and complained of a bad taste in the mouth accompanied by foul breath. The gastric distress disappeared under treatment, but patient's tongue was still furred and breath foul. Shortly afterward, about the early part of April, 1890, the lady complained of a sour taste, and a "thick feeling in her mouth," also calling my attention to her tongue. Examination revealed the tongue to be of a deep black color on the dorsal surface, and coated with a slimy mass; on scraping some of this off it was found to have a very fetid odor, and the papillæ of the tongue were so elongated that they waved to and fro like grass in a wind-storm. The papillæ were almost jet black at the top, shading into a brown farther down, and grayish at the base. The tongue was slightly swollen, but not tender. The entire dorsum was involved. A wash composed of soda biborate and glycerine was first used, with little or no effect. A strong solution (almost to saturation) of salicylic acid was then given as a wash; this had the effect of causing a desquamation of about two-thirds of the discolored epithelium, which came away like a piece of diphtheritic membrane. The surface denuded was raw and irritated in appearance. About a month later the trouble again recurred; but this time the wash which formerly did so much good had no effect. A lotion of soda salicylate and mercuric bichloride with glycerine used freely, succeeded in entirely removing the trouble; and in over four months no recurrence has been noticed.

In looking up the literature of this disease I find that it was first described by Salter in 1850, and though several excellent observers have recorded cases, it is a disease but seldom seen, yet one which will prove very troublesome to both patient and physician.

The true cause of the disorder is as yet undetermined. J. Solis-Cohen thinks it a default of nutrition; W. H. Thomson mentions a case in a physician who, after many years of coated tongue from dyspepsia, developed this disease. It lasted over a month and resisted treatment, but vanished soon after the patient left off eating strong English cheese for lunch. Butlin regards black tongue as of a parasitic nature, and probably dependent upon alterations of the normal micrococci present in the mouth forming a major part of the coating. He further states that the "amount of the micrococci is in inverse proportion to the food and epithelium present." Roth reports two cases in apparently healthy men. Scheet, however, denies the presence of a fungus, but maintains that it is a pigmented hypertrophy of the papillæ, which he finds are avoided by the ordinary micrococci of the mouth. He is not upheld in his opinion by the majority of writers on this subject, as the association of this disease with micro-organisms has been almost constant. Two notable exceptions are found recorded—one a case of S. Solis-Cohen, in a negro child the subject of congenital syphilis; and Professor Bernhardt reports a case in which these patches had existed for thirteen years in a patient who had syphilis followed by locomotor ataxia.

The disease is characterized by a grayish or brown-black discoloration of the papillæ on the dorsum of the tongue; it is most marked at the apex of the papillæ and lighter toward the surface of the organ. The filiform papillæ are enormously enlarged and closely resemble hair. The individual papilla are surrounded by a parasitic vegetable growth; the irritation produced by this parasite causing longitudinal hypertrophy. Desois made culture-efforts to reproduce the disease upon his own tongue, but failed.

Cohen and Allen state there are no special subjective symptoms. But the former mentions that his patient complained of a sensation as if his mouth was full of hairs. Roth's two cases—one had breath of an acid odor and his tongue gave an acid reaction; the other had fetid breath for ten years. "There was no evidence of nasal or pharyngeal disease or carious teeth; but on scraping the tongue the odor was found to come from the coating." As one writer states, "this may prove another factor in the causation of foul breath" The objective symptoms are the general characteristics of the peculiar elongation and discoloration of the papillæ. Care should, however, be taken to exclude any discoloration from drugs or food.

As a rule the prognosis is favorable; but the disease is liable to recur, as in the writer's case, and in some cases has a tendency to chronicity. The affection lasts from a week to several months.

Notwithstanding that some writers on this subject have denied the presence of a parasite, and even Cohen, in his excellent article in Pepper's "System," from which I have largely quoted, states the possibility of there being two forms, one parasitic and the other non-parasitic, the fact remains patent that this disease has yielded to none other than parasiticides and antiseptics. Brosin, who argues that it is non-parasitic, finds the most efficacious treatment to be friction with Hebra's spiritus saponis, followed by the use of salicylic ointment, or a solution of salicylic acid in ether and collodion. Among the remedies used those which have found the greatest favor are salicylic acid or salicylate of soda used topically, either alone or in combination with mercuric bichloride 1 to 500. In Roth's case he used a ten per cent. solution of mercuric bichloride, and states that five applications apparently cured his patient. Washing the tongue with peroxide of hydrogen on absorbent cotton is also recommended. The treatment that will prove most effective is apparently the one which will quickly neutralize any acidity in the oral secretions, combined with some powerful antiseptic.

The writer has seen in private and dispensary practice a condition approaching nigrities, especially in cases with gastro-hepatic irritation, and which on using an antiseptic in addition to the usual remedies has disappeared. In these cases the preference has been for the internal administration of salol.

The case of the negro child with syphilis was controlled by potassic iodide without topical treatment, though it recurred at varying intervals.

307 WEST 126TH STREET.

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, December 20, 1890.

THE STUDY OF THE KOCH METHOD.

IN the various hospitals here and elsewhere the theory of Koch is being subjected to the test of clinical study. Certain facts are being accumulated which have a tendency toward corroborating the observations of workers abroad. So far there appears to be a strange relation of cause and effect between the injection of lymph in tuberculous patients and a reactionary temperature proportionate to the amount of tuberculous deposit in the affected individual. Quite naturally this condition of things is made available for diagnostic purposes. How far the conclusions in regard to the latter property are sound remains yet to be proven by more extended experience. The same may be said concerning other phenomena noted in the different varieties of tubercular cases which have been subjected to treatment. Aside from mere assertion, and apart from theoretical inference, we have, from a purely practical stand-point, a great deal yet to learn. It becomes us, therefore, to be more than diligent in the collection of the data which shall enable us in due time to form strictly logical conclusions. Hence we are attentively observant and reasonably noncommittal. As we are driven before the gale of popular enthusiasm we must pause occasionally to take a reckoning and make soundings. Already we have touched shallow bottom in several places and must steer and trim accordingly. In the present stage of our study we have a reasonable idea of our actual position in not expecting too much. In fact we were told not to do so at the start. Koch himself, with becoming modesty, claims very little as yet. His theory, plausible as it may appear, is still to be demonstrated to the satisfaction of the working clinician. In the meanwhile abundance of time must be allowed for the accumulation of the necessary experience upon which to found our ultimate conclusions. The reported cures of incipient phthisis are not yet conclusive, as sufficient time has not elapsed to prove them permanent. Enough has been said and done, however, to encourage us in our work of inquiry. When we learn that in such cases, after repeated inoculations with the lymph, physical signs disappear, general phthisical symptoms cease, and the tubercle bacilli are no longer found in the sputa, we become more than hopeful for the verification of such novel and startling facts. The reported action of the inoculated lymph upon lupus and tubercular glands is certainly very strange, and whether we accept the theory of its action or not, the facts noted are of great clinical importance.

The supposed elective affinity of the lymph for bacillary deposits is not, analogically speaking, impossible, and adds enough of novelty to our present reasoning to give increased zest to our clinical studies.

While we hope for the best in obtaining tangible results, it is to be deplored that we are still in the dark as to the actual composition of the fluid for which such wonderful properties are claimed. We are thus debarred the use of an important factor in our estimation of results, and denied the opportunity of studying the *rationale* of a scientific problem in all its proper and varied bearings. In the interest of the freest possible spirit of inquiry, which is alike the necessity and pride of true science, we trust that the jealously guarded secret will soon be disclosed. In the meantime we must, under the circumstances, be contented simply to collect isolated facts and interpret them as best we can. This much certainly will be done, in view of the incentives for renewed study which are now offered, and in the end much good may be accomplished, even though the Koch method may prove a failure. The harvest is plenty, and the laborers are not few.

THE RELIEF OF PRURITUS.

ITCHING is of various kinds, and depends upon a great variety of cutaneous lesions. In some instances there are no eruptive features connected with sensation, and we have an independent disease without eruption, excepting such as continual scratching will produce. In the RECORD of October 18th, we published a scientific study of "The Sensation of Itching" from the pen of Dr. Bronson, which points out the reasons why people itch. What will stop the itching is a question which is of equal interest both to the sufferer from pruritus and the physician called upon to relieve it.

Dr. Bronson tells us, among other things, "that scratching relieves itching by directing the excitation into freer channels of sensation sometimes, especially when severe, substituting for the pruritus either painful or voluptuous sensations." It is scarcely ever necessary for the physician to prescribe this means of relief. It has been a household remedy for ages, and the infant has mastered its application before it graduates from the cradle. More frequently we have to order our patients not to scratch, because the relief attending the act is evanescent, and the damage done to the skin in a moment may take weeks or months to repair.

It is needless to say that this injunction can frequently not be enforced by any means short of the straight jacket.

Fortunately there are a few, out of the many recommended, drugs for the relief of pruritus, which have a more or less pronounced and lasting effect.

Menthol is not a new remedy in this sense, but it has of late received considerable attention. Dubreuil and Archambault have studied its effects in a variety of pruriginous affections, and find that with it they can succeed in calming itching of whatever nature it may be, but that it has its greatest effect in those cases where scratching provokes or keeps up the lesion of the skin and the pruritus. This

is particularly true of urticaria, certain eczemas, and the pruritus following scabies after the itch mites have been destroyed.

In urticaria a ten per cent. solution in alcohol or almond-oil can be employed, and in the acute and subacute forms is said to be capable of bringing about a speedy cure. For itching eczemas a five to ten per cent. solution in oil may be used, or from two to five per cent. of menthol may be added to oxide of zinc ointment. Upon excoriated surfaces and mucous membranes, care must be exercised not to use too strong applications, as a disagreeable sensation of burning may be determined, and for such parts an oily rather than an alcoholic solution should be chosen. Again, applications should not be made to the whole surface at once, since the sensation of cold which accompanies the anæsthetic action is in some cases extremely disagreeable.

In pruritus ani, perineal and genito-crural eczema, the results of treatment by menthol are said to be very favorable. We must not confound pruritus, as a symptom of numerous cutaneous diseases, with pruritus, an independent disease of nervous origin. In the former the underlying skin affection must be treated in an appropriate way, while anti-pruritics are relied upon to secure as much relief as possible. And all relief given from the itching is so much gained toward permanent cure. The consolation of the text "Blessed are they who itch, for they may scratch," may have sufficed for olden times, but the scientific spirit of to-day requires of us better things.

THE PATHOLOGY OF THE BLOOD.

The recent discoveries of Koch, by which it would appear that immunity against certain infections can be obtained by injections of the blood of animals already protected, are likely to give renewed interest to the extraordinary properties of this fluid. Never so much as now does the blood seem to be "a most peculiar juice."

In the last few years the additions to our knowledge of the pathology and physiology of the blood have been especially rich. The fact of the existence of a third corpuscle or blood-plaque has been quite absolutely established. Some new facts showing the natural history of the red corpuscle and its development out of the white, have been contributed by Ranfer and others. Many important studies have been made upon the chemistry of the blood, and upon the alleged germicidal properties of the serum.

Loeffler has shown it to be probable that a lessened alkalinity of blood is a factor in the susceptibility to infection, and explains in this way the greater liability of children to infective fevers.

The existence of the plasmodium malariæ in the red blood-cells has become a recognized and important clinical and diagnostic phenomenon.

At the third Italian Medical Congress, held October 20th in Rome, a large part of the time was taken up in discussing the various problems of blood pathology, and the question was raised whether this fluid might not have primary and "essential" diseases, like other tissues of the body. It was suggested that malaria might be a disease of this kind. The microbicide action of blood was also discussed. It was agreed that blood does have an action in this direction.

Catello said that he had found that in acute pneumonia the microbicide action of blood-serum is very pronounced, while it is considerably diminished in diabetes.

Rovighi had found that the microbicide action of human blood varied according to the microbes. It was, for instance, considerable with respect to the bacilli of typhoid fever, and less in respect to the staphylococcus aureus. It diminished in dyscrasic states with destruction of the red corpuscles, and varied according to temperature, being destroyed by very high or very low temperature.

We should not fail to mention in this connection the advances in the technique of blood examinations. It is now not at all difficult for the general practitioner to estimate the number of corpuscles and the percentage of the hæmoglobin. A study of these two factors has led certain writers to make a very definite classification of what may be called the anæmias.

Thus in simple anæmia there is a diminution in red blood-cells, and also in hæmoglobin. In pernicious anæmia the number of corpuscles is lessened, while the hæmoglobin is relatively increased; and in chlorosis the number of red cells is normal, but the hæmoglobin is decreased in amount.

We have put together the foregoing facts somewhat disconnectedly, but they will, we believe, impress our readers with the interest which the pathology of the blood is now exciting, and the great practical importance attached thereto.

THE LOST THREE MILLIONS.

All the world has been discussing the decline in birth-rate and forthcoming depopulation of France. The phenomenon has been regarded as both unfortunate and peculiar. But if our last census is correct, a somewhat similar process is beginning with us.

Here are the facts as given:

Between 1870 and 1880, with an immigration of 2,707,000 only, the increase of population is 11,598,000; so that, deducting the immigration, the increase which is due to the excess of births over deaths appears to be 8,891,000. Between 1880 and 1890, with an immigration of 5,275,000, the total increase of population is 12,225,000; and if we deduct the immigration, the increase which is due to the excess of births over deaths appears to be 6,950,000 only! The excess of births over deaths, which was nearly 9,000,000 between 1870 and 1880, falls to less than 7,000,000 in the following decade, although the population at starting was twenty-five per cent. greater in the later than in the earlier decade.

This can be best shown in a table, as follows:

	Increase of population.	Increase from births.
1870–80	11,598,000	8,891,000
1880–90	12,225,000	6,950,000

Thus the birth-rate has fallen off both absolutely and relatively. Assuming that this country had a birth-rate of 350 per 1,000 yearly, which is about the average of European countries, there would have been 20,000,000 births, and with a death-rate of 18 per 1,000, a little over

ten million deaths. We should expect that the increase of population through the birth-rate would have been nearly ten millions instead of nearly seven.

There are apparently three million babies wanting, either not born or not counted. The birth-rate of the past decade, according to the last census, is about the same as that of France, Ireland, and Greece.

It is not an impossible rate, but it is a pathological one. If it is correct, we are in the same condition essentially as France, viz., that of a sterile race, whose increase must depend mainly on the immigration. It will not do, however, to say flatly that the census is wrong, for there are many peculiar things about our population which make its growth a somewhat peculiar problem. Nearly half the adult population, for example, is now foreign-born, the proportion of women to men is unusually low, while the number of persons between the ages of thirty and fifty is much below the average, 221 per 1,000 as against 246. The question is one that ought to be studied dispassionately, but it has unfortunately got into politics, and a great many absurd statements are being made in consequence.

News of the Week.

Pasteur to Koch.—The following letter of congratulation, as generous and significant as it is brief, was addressed by M. Pasteur to DR. KOCH:

"Au DR. R. KOCH, à Berlin.

"M. Pasteur et les chefs de service de l'Institut Pasteur adressent à Rob. Koch toutes leurs félicitations pour sa grande découverte. PASTEUR."

[Translation.]

"To DR. R. KOCH, Berlin.

"M. Pasteur and the officers of the Pasteur Institute address their warmest congratulations to Rob. Koch on his great discovery. PASTEUR."

The New York Hospital Association Wins.—An action was commenced by the New York Hospital Association, some time ago, to have its farm of about three hundred acres in White Plains stricken off the assessment roll, on the ground that a special statute exempted from taxation all the property of the New York Hospital from which no income was derived. The case was tried before Justice Bartlett, and he decided against the hospital. An appeal was taken to the General Term of the Supreme Court, which has just handed down its decision in favor of the hospital. The Hospital Association will now go ahead and build its extensive buildings on the farm at White Plains.

Gold Hypodermic Injections in Phthisis.—Dr. J. Blake White read a paper before the Southwestern Medical and Surgical Society Wednesday evening, in which he described some remarkable effects from the use of the gold preparations administered hypodermically in tubercular affections, particularly external manifestations, and in persistent eruptions, especially of a leprous character. A committee was appointed, consisting of Doctors J. Lewis Smith, Simon Baruch, and Frank Grauer, to look further into the subject with Dr. Blake White. The paper will appear in a future issue.

An Analysis of Koch's Lymph by Professor Schnitzler, of Vienna, gives the following results (*Lancet*): It is a syrupy, slightly foaming liquid of brown color, its aqueous solutions showing a greenish fluorescence. In odor it resembles elder yeast or leaven combined with a sweet aromatic admixture such as honey. If slowly heated the smell of yeast gives way to an agreeable odor resembling fruits; on further heating the smell becomes like that of fresh bread crust, but without the acid character of fruit. If the heating of the substance is continued the smell assumes the empyreumatic character of that exhibited by burning albuminous matter and carbonizing horny substances. Only an extremely small quantity of ash (under one per cent.) was obtained. The liquid shows a neutral reaction. Some of the liquid was diluted with water and subjected to various tests. By adding diluted acetic acid it becomes slightly opaque, by which the presence of a small quantity of mucin is indicated; by further adding potassium ferrocyanide the opacity of the liquid is increased, showing the presence of albumin; but this reaction is too feeble to indicate the amount of the active principles in the lymph. On the other hand, the biuret reaction characteristic of peptones is very strongly marked. The tests for cyanogen compounds gave perfectly negative results, and the assumption that Koch has been using cyanides of gold or prussic acid seems therefore completely erroneous, as no metals could be detected in the liquid. Traces of reduction were observed after treating the liquid with Fehling's solution, but the presence of sugar among the reducing substances could not be confirmed. Sulphur and phosphorus in an organic form proved to be absent. As only a small quantity of the lymph could be used for chemical examination, it was impossible to shake the liquid with ether and alcohol for the purpose of separating the alkaloids, if present, from the albuminoids, but the reagents which reveal the presence of alkaloids and ptomaïnes even when mixed with albuminoids—*e.g.*, acid bichromate of potassium—failed to give a reaction, so that the absence of alkaloids and ptomaïnes may be taken for granted. It seems, therefore, that, besides the peptones, the principal active substances contained in Koch's lymph belong to that not yet chemically defined class of the protein bodies called toxalbumins, globulins, or enzymes, which play such an important *rôle* in all fermentative processes, from the chemical changes produced by common yeast in the products of the vegetable kingdom up to the coagulation of the blood in animals.

It is Stated that a meeting of the Board of Trustees of the *Journal of the American Medical Association* will soon be held, in order to take action upon the question of removing the *Journal* to Washington.

Large Superficial Veins of the extremities occurring in early life are a sign of a weak constitution, according to Dr. B. W. Richardson.

The Antagonism of the German and French Physicians.—The principal criticism I would make of the work the Germans are doing in this subject (bacteriology) is one which doubtless has presented itself to every medical man staying in Berlin. I refer to the jealousy exhibited toward Pasteur and the French school. I think this is carried so far that the Germans refuse to make use

of any method originating with the French (no matter how meritable such may be), for apparently no other reason than because it is of French origin. To be sure, this feeling may be, and probably is, reciprocal on the part of the French, and, if so, the old adage, "Two wrongs never make one right," applies here with much force. It is, indeed, lamentable that such conditions exist between two such renowned schools, as the profession (and I might add humanity) at large can but be more or less the losers by such a spirit of antagonism.—*Berlin Letter, Post-Graduate.*

The Pauper Insane.—The New York State Commission in Lunacy, since the passage of the State Care act, April 15th last, has transferred all of the insane poor of the following named counties to the State hospitals: Chenango, Clinton, Cortland, St. Lawrence, Saratoga, Schenectady, Schoharie, Sullivan, and Warren. Twenty-two counties have now no insane poor in their poorhouses or county asylums. Before the Legislature meets, by the foregoing transfers, discharges by judges, deaths, etc., of insane in county asylums and poorhouses, the number will have been reduced from 2,200 to 1,600. With the provisions which can be made under existing appropriations, and by reason of discharges by judges, deaths, etc., the number of insane patients in county asylums and poorhouses to be provided for on the 1st of May, 1891, will not exceed 1,200.

A Medical College Endowed by a Physician.—The Cooper Medical College, of San Francisco, which has recently completed its new building, has a somewhat unique history, for it has been built up and endowed by the savings and generosity of a physician, Dr. L. C. Lane. The college has one of the finest buildings for its purpose in the country, and has property amounting to a quarter of a million. This has come to it not through the patronage of multiple millionaires, but through the labors and savings of a physician.

The Trouble with the German Professor.—It may be observed, on occasions of a festive character, that the only trouble with the German socially is that he cannot cross his legs. Social intercourse can never reach its best, highest, and sincerest expression without a capacity for this anatomical position. In action the legs are parallel, in emotion they assume various expressive attitudes; but in the calm enjoyment of social life and supreme good-fellowship, they are crossed. Whether this physiological incapacity of the German is due to an absence of cortical areas for the adductors, or to peripheral neural weakness, or simply to an excessive intra-crural panniculus adiposus, I cannot say; but it is a racial defect that is deep-seated and pathetic.—*Post Graduate.*

Mortality in European Armies.—Recent statistics relative to the mortality among European troops in time of peace show that the Spanish army occupies the place of dishonor in this particular, with a death-rate of 13 per mille. Russia comes next with one of 9, then Italy with one of 7.74. Next in order come Austria with a mortality of, in round numbers, 7 in the thousand; France with 6, England with a little over 5, Belgium with a little over 4, and Germany with a little over 4. Consumption is rifest among English soldiers, and least prevalent among the French.

INOCULATIONS OF KOCH LYMPH IN NEW YORK.

In continuing, from our last issue, our report of inoculations in New York we append the following data obtained from original sources.

CASES AT ST. LUKE'S HOSPITAL.

Service of Dr. F. P. Kinnicutt.

Up to the present date fifteen patients, suffering from various forms of tubercular diseases, have been inoculated by Dr. Kinnicutt with Koch's lymph in the wards of St. Luke's Hospital.

The cases were carefully selected, with the view of thoroughly studying this method of treatment. All of them will remain under his personal observation in the hospital during the entire period of treatment, and a detailed report of their histories subsequent to inoculation will be published from time to time.

Two cases of lupus of the face, one case of lupus of the hand, accompanied by tuberculous infiltration of a limited portion of one lung; two cases of tuberculous glands (cervical); three cases of hip-joint disease with intermittently discharging sinuses; one case of tuberculous disease of tibia and fibula with open sinus; one case of prostatic surface tubercular disease; four cases of pulmonary tuberculosis in its first stage and limited in area; one case of doubtful diagnosis, are embraced in the above group.

Quantity of Lymph Used.—Thus far 0.001 gm. of the lymph has been used for the initial inoculation in all adult cases, and 0.005 in children.

Decided reactions have been obtained in all patients but one of the fifteen inoculated. The reactions have varied in the time of their appearance from four hours after inoculation to twenty-four; also in their intensity and duration.

Reactions.—The longest duration of the reaction has been forty-six hours. The highest temperature recorded during the reaction has been 104°. The increase in pulse and respiration rate has been proportionate to the rise in temperature. The local changes in the cases of lupus have corresponded very exactly with those recorded by the Berlin observers, and have been of the greatest interest. The differential diagnosis in the doubtful case mentioned, lay between lupus of the throat and tertiary specific lesion. No reaction followed the inoculation of 0.001 gm., and a second of 0.002 gm., and the case was accordingly regarded as one of specific disease.

No symptoms which could occasion any apprehension have been observed in any of the cases.

Tables are appended showing the symptoms and signs observed, during and following the inoculations, in three patients presenting different forms of tubercular disease.

Case I. *Phthisis.*—Female, aged forty. Tubercular infiltration of apex of right lung. Sputa contain very numerous tubercle bacilli. No rise of morning or evening temperature during the two weeks previous to inoculation. General condition good.

First inoculation, December 10th, 11 A.M., 0.001 gm. Reaction developed five hours after inoculation, slight chilliness, headache, general malaise, fever. Duration of reaction, twenty-one hours. Highest temperature, 101 2° F. Amount of sputa for twenty-four hours preceding inoculation, 11 drachms; for twenty-four hours following inoculation, 13 drachms; for second twenty-four hours following inoculation, 18 drachms; for third twenty-four hours following inoculation, 3 ounces. Urinary examination, a trace of albumin present before and after inoculation. Physical signs: Crepitation over affected area more marked, with numerous râles in larger tubes of same No enlargement of spleen.

Second inoculation, December 13th, 3 P.M., 0.001 gm. Reaction developed thirteen hours after inoculation. Duration of reaction, nineteen hours. Highest temper-

ature, 101.2° F., seven hours after beginning of reaction. Amount of sputa for twenty-four hours following inoculation, 3 ounces. Urinary examination, trace of albumin, otherwise negative. Physical signs: Bronchial element of respiratory murmur distinctly more marked, and physical signs of infiltration obtained over an increased area. No enlargement of spleen.

Third inoculation, December 16th, 3 P.M., 0.001 gm. Reaction developed six hours later; chilliness, nausea, and fever. Duration of reaction, thirty hours. Highest temperature, 103.8° F., eighteen hours after inoculation. Amount of sputa, two ounces. Physical signs: Numerous moist râles in large tubes of affected area, abundant subcrepitation. No enlargement of spleen.

CASE II. *Prostatic Surface Tubercular Disease.*—First inoculation, December 11th, 3.30 P.M., 0.001 gm. Temperature normal. Reaction developed seven and a half hours later; rigors, headache, pains in limbs, general malaise, fever. Duration of reaction three hours. Highest temperature, 104° F. Local symptoms, pain and uneasiness over region of bladder, increased irritability of same. Urinary examination, small amount of albumin present before inoculation distinctly increased during reaction.

Second inoculation, December 13th, 3.30 P.M., 0.001 gm. Reaction developed four hours later. Duration of reaction, thirty hours. Highest temperature, 101⅘° F. Local symptoms similar to those following first inoculation. Urinary examination same as above, with a few hyaline casts. Physical signs:

Third inoculation, December 16th, 3.30 P.M., 0.001 gm. Reaction developed five hours later; rigors, headache and fever. Duration of reaction, twenty-nine hours. Highest temperature, 103.8° F. Physical signs: Severe pain felt at base of penis. Great irritability of bladder, the urine being ejected every fifteen or twenty minutes through supra-pubic opening.[1]

CASE III. *Lupus of Ear and Contiguous Portions of Face and Neck, of Twelve Years' Duration.*—Female, aged twenty two. Under treatment for the greater portion of this time. First inoculation, December 11th, 3 P.M., 0.001 gm. Temperature normal. Reaction developed, nine hours later. Slight rise of temperature and burning sensation in affected ear. Duration of reaction, twenty one hours. Highest temperature, 99.8° F. Local signs described in appended notes. Urinary examination negative. Physical signs, no enlargement of spleen.

Second inoculation, December 13th, 0.002 gm. Reaction developed eleven hours later; slight fever, decided burning sensation in affected ear. Duration of reaction, twenty-two hours. Highest temperature, 100.6° F. Local signs described elsewhere. Urinary examination, trace of albumin, otherwise negative. Physical signs negative. No enlargement of spleen.

Third inoculation, December 16th; 0.003 gm. Reaction developed six hours later; nausea, headache, chilliness, and fever. Duration of reaction, thirty hours. Highest temperature, 103.8° F. Local signs: more or less sero purulent exudation which crusts rapidly; crusts cover nearly the entire affected area. Hyperæmic areola, more than an inch in width, surrounds the entire patch. Posterior margin of patch presents a raw fissure as if the morbid tissue were separating from the healthy skin.

The local changes observed in the case of lupus are described as follows by Dr. George H. Fox, by whom the patient was referred to me.

Notes by Dr. George H. Fox of Case III., Lupus Vulgaris of Left Ear.—On December 11th, at 3 P.M. (date of first injection of lymph), the case presented the following appearance:

The left auricle was considerably thickened, of a dull red hue, and partly covered by adherent flakes of dead epidermis. Below the ear was a rounded, circumscribed patch of lupus, about the size of a silver dollar, the smooth surface of which presented well-marked cicatricial lines, the result of previous scarification. This patch extended for a short distance up behind the ear. Between the lines, the dull-red hue of the lupus tissue was still apparent. During the patient's two weeks residence in St. Luke's Hospital there had been no sensation of pain, burning, or itching in the affected part. On December 12th, 3 P.M., there was so marked a change in the apppearance of the ear, that it was noticeable at first glance, even at a distance.

The affected part appeared as though it were acutely inflamed or erysipelatous. The auricle had assumed a brighter red hue and was considerably swollen. The patch beneath and behind the ear was notably elevated, and the redness had increased to such an extent that the cicatricial appearance of the surface was no longer apparent. At the margin of the patch there was a narrow zone of hyperæmia, and a number of prominent red points which had not been noted on the preceding day, and which doubtless indicated the most recent infiltration of the healthy tissue. The patient stated that a burning sensation had occurred during the previous night, and the ear had felt quite painful toward morning. It now felt as it looked, swollen and inflamed.

On December 13th, the elevation of the patch and swelling of the auricle had subsided, and the color was less inflammatory. The burning sensation had gone. The epidermic flakes, especially upon the helix of the ear, were dry and whitish. At a single point on the patch below the ear, a serous exudation was noted. A second injection of the lymph was made.

On December 14th, there was not much change in the affected part. There was a slight increase of inflammation, but by no means so marked as after the first injection, although double the dose had been employed. There was no elevation of the margin of the patch, and the lobe of the ear felt a trifle softer. Below and behind the ear there was a slight moist discharge, with a tendency to honey-like crusting.

The patient stated that during the previous night she experienced "a heavy, stupid, sick feeling," and felt a sharp pain in the ear, as after the first injection, but the sensation of burning and swelling was much less this time.

On December 15th it was simply noted that the surface of the affected part presented more of an eczematous appearance.

The diagnosis of tubercular disease of the prostate in Case II. was made by Dr. Keys, by whom the patient was referred to me. The reaction obtained would seem to be corroborative of this diagnosis.

[1] Made previous to admission.

CASES AT MOUNT SINAI HOSPITAL.

Services of DRS. A. JACOBI and HENRY N. HEINEMAN.

CASE I. *Phthisis.*—Abraham K——, aged twenty four, tailor, Russia; November 11, 1890. Family history negative. Present illness began five and a half weeks ago. After catching cold was seized with a fit of coughing accompanied by hæmoptysis. Following day sputum streaked with blood. Coughs most toward morning. Expectoration thick and yellow. Dyspnœa, hectic, night-sweats, and pain in left side.

Physical Examination: Anterior right lung, slight dulness at apex, broncho-vesicular breathing, slight depression above clavicle; posterior right lung, slight dulness, prolonged expiration; anterior left lung, noisy inspiratory murmur, vocal resonance normal; posterior left lung, dulness over lower half of interscapular region, slight diminution of respiratory murmur over area of dulness, few slight subcrepitant bronchial râles in upper lobe occasionally.

First inoculation, December 11th, 0.000⅘ c.c.; second, December 12th, 0.002 c.c.; third, December 13th, 0.003 c.c.; fourth, December 15th, 0.004 c.c.; fifth, December 17th, 0.005 c.c.

Temperature usually but slightly elevated, never above 101° F. General slight reaction after first three doses. After fourth inoculation had intense headache and excessive vomiting. Cough and expectoration were increased by first inoculation. Spleen five inches by four inches.

CASE II. *Lupus.*—Franz D——, aged twenty-three, coppersmith, German, admitted December 4, 1890. Both parents died of phthisis. When five years old remembers a small patch opposite articulation of left inferior maxilla continuing for two years. In 1879, took rapid progress, spreading greatly, and has continued to increase. Has been scraped and cauterized. For past two and a half years no treatment. At present there is induration of deeper skin and nodules. Largest measurement 5 inches, shortest 1 inch, widest 3 inches. Superficial integument completely destroyed, surface red here and there, small crusts.

Inoculations: December 10th to 17th, six inoculations, up to 0.005 c.c. Within four hours after the first inoculation the lupus became red and swollen, remaining so for twenty-four hours, with an itching sensation. Within two days marked lessening in the induration was noted. Small red-brown spots along the anterior border after being redder became paler, and were finally covered with superficial extensive scales. The redness and swelling followed each inoculation, only to subside again. The temperature was not above 100° F., usually only 99° F. Moderate constitutional symptoms were complained of. Now the induration of cheek is gone; new nodules, not at first apparent, became so, then increased in size, then disappeared.

CASE III. *Phthisis.*—Edward S——, aged nineteen, cloak-cutter, United States. Admitted October 10, 1890. Family history: mother died of diabetes; one sister, chronic bronchitis. Caught cold after a Russian bath seven weeks ago, and three days later, in a severe coughing spell, was seized with hæmoptysis. Next morning had a second attack. Then had blood-stained sputum for two or three weeks, and a third hemorrhage a few days ago. Coughed day and night. Hectic at times. No night-sweats or diarrhœa. Has lost flesh and strength.

Inoculations: From December 10th to 17th had six inoculations, from 0.000⅝ c.c. to 0.004 c.c. Save the general malaise and headache, and moderately elevated temperature, together with slight chill, had increased cough.

Appears slightly improved in general appearance.

CASE IV. *Phthisis.*—Edward W——, aged twenty, clerk, Germany. Admitted October 26, 1890. Family history negative. Dyspnœa for past twenty-nine hours; an inclination to cough, with scanty sputum. Two months ago had hæmoptysis, nearly one-half pint. This was repeated nightly for two weeks. Has steadily emaciated, severe dyspnœa upon exertion. Cough mostly on rising. On admission patient was pale and anæmic; pulse, 115; respiration, 21; evening temperature, 102.4° F. in axilla.

Physical examination: Anterior left apex, dulness, bronchial breathing, moist râles; right apex, exaggerated breathing; posterior left apex, flatness, bronchial breathing; crepitant, subcrepitant, and mucous râles. Left base, breathing absent, fremitus transmitted; right base, exaggerated, high-pitched at apex.

Inoculations: Has received six inoculations from 0.00⅝ to 0.005 c.c., with moderate rise of temperature to 101° F., and save increase of cough and expectoration, the latter more diffluent, had only slight reactionary symptoms.

Although in a markedly cachectic state at the outset, he is, if anything, in slightly better general condition, otherwise the results are negative.

CASE V. *Lupus.*—Solomon G——, aged twenty, capmaker, Russia; admitted November 23, 1890. Mother died of phthisis. Father has phthisis. For five years has noticed redness of penis. Three months ago this began to ulcerate. Now (November 30th) the lower half of penis and overlying foreskin are involved in the growth. A ∧-shaped piece of glans penis, involving floor of urethra is destroyed. The glans on either side is ulcerated. Meatus and lower third of foreskin surrounded and penetrated by small nodules, and are much ulcerated; beneath the ulcer is a hard, indurated base.

Inoculations: From December 10th to 17th, has had six inoculations from 0.00⅝ to 0.004 c.c. From the outset the lupus became reddened within a few hours after the original inoculation. Steadily the redness has been followed by swelling which would subside, and with it a portion of the indurated base would melt away. This has been accompanied by itching in the parts and superficial scaling. The lupus has healed over one-third its area. The general symptoms have been malaise, headache, and those above noted, the temperature rising to 103° F. and over.

CASE VI. *Phthisis.*—J. R——, aged eighteen, cigarmaker, Russia. Admitted October 1, 1890. Father died of phthisis. Ten days ago seized with chilly sensations, cough and dyspnœa, and pain under the left nipple; thick greenish expectoration. Fairly well nourished. Pulse, 88; respirations, 28; temperature, 100.2° F.

Physical Examination: Dulness at left apex; bronchial voice and breathing from apex to cardiac area; posterior, left side, dulness at apex; bronchial vesicular breathing at angle of scapula. At right apex, bronchial voice and breathing; at angle, few fine subcrepitant râles.

Inoculations: First, December 13th, 0.002 c.c.; second, December 14th, 0.003 c.c.; third, December 15th, 0.004 c.c.; fourth, December 16th, 0.005 c.c.

Complains of yawning and restlessness. Had but slight cough previous to inoculation; this was much increased, as was the expectoration. Complained of intense pain over apex of left lung, the seat of disease.

Slight general malaise. Temperature usually normal, rarely 101° F.

CASE VII. *Tubercular Caries.*—Annie S——, aged seventeen years, single, Germany. Admitted June 22, 1890. Six years ago had ulcer on left side of face, another on abdomen, and a sinus over right big toe. Bones of toe removed. Removal since then of metacarpal bone of left finger. Caries of left tarsal bones and operation.

Condition December 10th fairly good; good appetite, well nourished; temperature has been normal for some months. Now has two sinuses over left foot.

Inoculations: December 11th, 0.002 c.c.; December 12th, 0.003 c.c.; December 14th, 0.004 c.c.; December 16th, 0.005 c.c. After first injections highest temperature was under 101° F.; after third and fourth the temperature rose to 102°+F. Besides headache, malaise, temporary loss of appetite, backache, after the last injection had pain and peculiar sensation in sore foot, and marked splenic and hepatic discomfort, and spleen decidedly enlarged. Still, further discharge from foot diminished.

CASE VIII. *Tubercular Joint.*—Daniel S——, aged fifty-three, married, Germany. Admitted November 6, 1890. Four months ago operated upon for exsection of ankle-joint, since then has had sinuses of left tarsus. Now pale, poorly nourished. Temperature before inoculation normal; appetite good.

Inoculations: December 12th received inoculation of 0.002 c.c.; December 14th, 0.003 c.c.; December 16th, 0.006 c.c. Nine hours after the first inoculation temperature was 101.6° F.; four hours after the second 100.6° F., and twenty-four hours after the third, 101° F. Beyond slight impairment of appetite and general malaise had pain in right hand and a slight papular eruption over abdomen December 13th, twenty-four hours after first injection.

CASE IX. *Tuberculous Glands.*—Leah F——, aged eleven, United States. Admitted November 7, 1890. For five or six years has had repeated operations for tu-

berculous glands and skin disease. Over right scapula old cicatrix of former disease. For some time cervical glands on both sides have been seat of ulceration and breaking down, involving the skin. Temperature normal to time of inoculation. December 9th, appetite good, bowels regular, fairly nourished, cheerful, no pain.

Inoculations: First inoculation, December 10th, 0.001 c.c.; second inoculation, December 12th, 0.002 c.c.; third inoculation, December 13th, 0.002 c.c.; fourth inoculation, December 16th, 0.003 c.c. Eleven hours after first injection temperature rose to 103° + F.; seven hours later cervical glands were markedly swollen. At the end of three hours more the swelling began to subside, and not until next day were glands as before. After second injection temperature did not rise above 100.8° F., and glands were only slightly affected. After third injection, in eight hours temperature had risen to 103.6° F., and in twelve hours more glands were again swollen. Child had general reaction after each injection, malaise, headache, impaired appetite, coated tongue with red edges, enlarged spleen, backache, etc. The reaction lasted two days, when the temperature became subnormal, 96.4° F. After the fourth inoculation the temperature in twelve hours was 105° F., and the patient had cold extremities, and was in a much depressed condition from which she rallied in six or eight hours. Glands swollen as before.

Case X. *Multiple Sarcomata.*—Lewis G——, aged forty, married, Russia, tailor. Admitted November 19, 1890. Was perfectly well up to last April, then began to have enlarged cervical glands. Was operated upon one month ago for enlarged cervical glands. Since then glands have reappeared upon both sides of neck and in both groins. Upon both sides of neck has an enormous chain of glands forming a continuous mass extending down into the mediastinum and with the trachea and thyroid making one large tumor.

December 10th.—Since admission glands have increased in size. Axillary glands involved, inguinal glands, and tumors appearing upon the right side, taking origin from periosteum of the ribs. Temperature only once has reached 101° F. Diagnosis, multiple sarcomata.

Inoculations: December 11th, 4 P.M., injection of 0.002 c.c. 5 P.M: pulse, 112; respiration, 24; temperature, 101.8° F. 8 P.M: pulse, 108; respiration, 24; temperature, 102.8° F. Feels as though something were running under skin of both hands and in glands of left side of neck. Next morning usual symptoms of infectious fever. December 12th, 3 P.M., injection, 0.002 c.c. Nine hours later, temperature, 102.8° F. Has pain in left hand. December 13th, second injection of 0.002 c.c.; December 14th, 0.003 c.c.; and December 16th, 0.004 c.c. The highest temperature was usually 102° F. and nine hours after inoculation he had the general symptoms of malaise, headache, slight loss of appetite, and peculiar sense of decided heat over left cervical region.

Case XI. *Lupus.*—Bertha B——, aged thirty-three, female, Germany, governess. Admitted December 13, 1890. Mother died of phthisis; both grandparents of cancer. Three years ago first noticed a small pimple of left labia of vagina; three months later it appeared upon right side, then both became confluent, broke down, and presented an ulcerating surface which presented the usual appearance of lupus. Eight months later she was first operated upon, since then has been repeatedly cauterized, and the tissues scraped out.

December 13th.—Upon admission, on each side of fourchette slight ulceration, in healthy condition, surrounded by no inflammation, tissue presenting no discharge. Ulcer on left side larger, possibly one-fourth greater in diameter, and both apparently of some depth. Upper end of ulcer overlapping lower. Beneath the ulcer, upon the left side, small indurated nodule.

Inoculations: First inoculation, December 13th, 0.001 c.c.; second inoculation, December 15th, 0.002 c.c.; third inoculation, December 16th, 0.003 c.c. But little constitutional reaction, save slight headache at times, and itching in seat of lupoid tissue, particularly upon left side. Examination, December 16th, shows diminution in size of ulcer upon left side.

Case XII. *Tubercular Caries.*—Bertha B——, aged fourteen, United States. Admitted December 8, 1890. Father died of phthisis. Five years ago was in German Hospital for eighteen months, repeatedly operated upon for carious bone. Her entire trouble dates back nine years, and is attributed to fall. Upon admission to hospital has a discharging sinus upon outer side of left thigh, left groin, and inflamed area over left wrist and over dorsal spine. Is markedly emaciated and anæmic, with poor appetite and normal temperature.

Inoculations: First Inoculation, December 14th, 0.0005 c.c.; second, December 16th, 0.001 c.c. No reaction save slight headache, and sweating.

Case XIII. *Tubercular Caries.*—Fannie L——, aged seventeen, tailoress, single. Admitted February 15, 1890. Has had carious bone disease for some years; was operated upon March 3, 1890, and again April 3, 1890, resection of knee-joint. Now fairly nourished. Has three sinuses about knee-joint leading to carious bone on lower end of femur. Appetite good. Temperature normal for a long time. Moderate discharge from sinuses.

Inoculations: First inoculation, December 12th, 0.002 c.c.; second, December 14th, 0.003 c.c.; third, December 15th, 0.004 c.c.; fourth, December 16th, 0.005 c.c. Discharge is less since last inoculation, otherwise the general reactive symptoms, the highest temperature being 101.6° F.

Case XIV. *Tubercular Caries.*—Charles M——, aged fifteen, Germany. Admitted December 3, 1890. Family history negative. Illness dates back five years. Repeatedly operated on for caries of right tibia. Latterly caries of rib; was operated upon and one rib exsected to extent of four inches—a portion of carious rib still left. General condition fairly nourished, pale and anæmic. Prior to December 11, 1890, had occasional evening temperature of 101° F., but usually only for a short time.

Inoculations: First inoculation, December 11th, 0.001 c.c.; second, December 12th, 0.001½ c.c.; third, December 13th, 0.002 c.c.; fourth, December 14th, 0.003 c.c.; fifth, December 16th, 0.004 c.c. Discharge diminishing from right carious rib; highest temperature, 101.8° F.; general symptoms of reaction moderate.

Case XV. *Tubercular Caries.*—Ida S——, aged twenty-one, married, Russia. Admitted December 13, 1890. For past nine months has been repeatedly operated upon for caries of left tarsus. Patient is now pregnant; has numerous sinuses over left tarsus. Is in general good condition. Temperature upon admission 99.8° F.

Inoculations: First inoculation, December 14th, 0.0005, c.c.; second, December 15th, 0.001, c.c.; third, December 16th, 0.002, c.c.; fourth, December 17th, 0.003 c.c. Except for pain in left foot, very slight reaction. Temperature normal most of time. Reached 102° F. once for short time.

Case XVI. *Lupus.*—Louisa S——, aged twenty, single, Germany; admitted December 14, 1890. Family history negative. Eighteen years ago had a few eruptive spots on left leg, upon right side of face, then upon right hand. Was operated upon three times, the lupoid tissue upon leg and face was destroyed. That on back of right hand has continued growing, involving back of middle finger for upper two joints, a small portion of upper joint of ring finger, and the immediately adjacent portion of dorsum of hand for a space of two by three inches. Portion over middle finger had thickly indurated base and also above it upon dorsum of hand. Upon the inner side of right arm she has three or four circular patches of three years' standing, which, at time of admission were pale, showing only superficial destruction.

Inoculations: First inoculation, December 15th, 0.001 c.c.; second inoculation, December 17th, 0.002 c.c. Eighteen hours after first injection temperature had risen to 102.8° F. Within eleven hours after first injection lupoid tissue became markedly red and swollen and the spots upon the inner side of the right arm became red and apparent. December 17th, it was noted that the lupus was covered with extensive scales and a slight diminution in induration is apparent.

CASE XVII. *Phthisis.*—Annie C——, aged nineteen, Russia; admitted December 7, 1890. Family history negative. Present illness dates back eight months. At that time had influenza. On admission to hospital was suffering with cough and muco-purulent expectoration, and had had slight hemorrhage, with pain in chest and back. Pulse, 94; respirations, 26; temperature, 98° F. Physical examination indicated incipient phthisis; posterior right apex, slight dulness; exaggerated voice and prolonged expiration.

Inoculations: From December 11th to 17th has had six inoculations, from 0.00$\frac{2}{3}$ to 0.005 c.c. Has had very little reaction. Face has been puffy; pain in inguinal regions, backache, headache, nausea, increased cough; spleen much increased in size.

CASE XVIII. *Phthisis.*—Dawson H. C——, aged thirty-three, United States; admitted December 14, 1890. Family history: Father and mother both living; one brother died of phthisis. Present illness dates back about four and a half years; then had slight cough with mucous expectoration. In March, 1886, had sudden hæmoptysis while sleeping, followed by a second hemorrhage two months later. Has had night-sweats and emaciation for past ten months.

Inoculations: First inoculation, December 15th, 0.001 c.c.; second, December 16th, 0.002 c.c.; third, December 17th, 0 003 c.c. Patient entered with temperature of 103° F.. Since inoculations' only once has his temperature touched 103° F., being generally lower. Says his cough is looser, and he feels bright; thinks he is slightly better. Slight reaction symptoms.

CASE XIX. *Phthisis.*—E. A. G——, aged fifty-five, United States; admitted December 11, 1890. Family history: Mother died of phthisis. Has one sister with lung trouble. Present illness dates back five years. At that time complained of sore-throat, and slight cough and hoarseness. Had slight hæmoptysis. Cough gradually became worse, with pain in chest, night-sweats, loss of flesh and strength, blood-stained sputum and diarrhœa. On admission to hospital, rather anæmic; pulse, 104; respirations, 40; temperature, 98.6° F. Physical examination indicates fibrous phthisis with small cavities. Dulness at both apices, anterior. On right, broncho-cavernous breathing, bronchophony, and pectoriloquy, gurgles, and pleural frictions; at left apex, bronchial breathing, increased voice, and pleural frictions; posterior, marked dulness at right apex, broncho-cavernous breathing, bronchophony, and pectoriloquy, pleural râles. Left apex same as in front. At right base, posterior, absent breathing and scattered subcrepitant râles.

From December 12th to December 17th has had five inoculations from 0.002 c.c. to 0.005 c.c., without any reaction or change whatsoever, save the usual symptoms of malaise, etc., but no rise of temperature.

CASE XX. *Phthisis.*—Captain T. A—— aged twenty-nine, Newfoundland, admitted December 11, 1890, family history negative. Has been an inveterate cigarette smoker. Present illness dates back two years; was exposed to wet and cold at sea. Some time later began to cough mucous expectoration. Has never had pain, but has been troubled somewhat with night-sweats. No hæmoptyses. On admission, condition good; physical examination indicates incipient phthisis, dulness at right apex with few fine râles and diminished breathing. At left apex, hyperresonance and prolonged expiration.

Inoculations: From December 12th to 17th, had five inoculations, up to 0.005 c.c. Cough and expectoration have increased, has had chills, temperature usually normal, and not over 100.2° F. Has had usual reaction symptoms, headache, malaise, splenic and liver discomfort and engorgement. Thinks to-day he feels better, though he has complained of weakness before.

CASE XXI. *Phthisis.*—Baerman W——, aged twenty-two, Roumania, admitted December, 1890. Family history negative. Illness dates back six months, with pain in chest and back. Has had cough for three months, with mucous expectoration. No hemorrhages. On admission to hospital was in fairly good condition. Pulse, 96; respiration, 24; temperature, 98.8° F. Physical examination indicates beginning phthisis. Dulness at both apices. Broncho-vesicular breathing at left; pleural râles.

Inoculations: First inoculation, December 13th, 0.002 c.c.; second, December 14th, 0.003 c.c.; third, December 16th, 0.004 c.c. Ten hours after second inoculation, temperature rose to 104° F. After third inoculation highest temperature was 102.2° F. Otherwise, had chill, malaise, etc., increase of cough and expectoration.

CASE XXII. *Empyæma.*—Charles M——, aged twenty-seven, Germany, admitted December 1, 1890. Family history negative. Present illness dates back two weeks, when patient caught severe cold. Had chill, headache, considerable cough, but no expectoration. Also complained of pain in left side, with some dyspnœa. On admission, condition good. Pulse, 124; respiration, 24; temperature, 100° F. Physical examination and aspiration indicate empyæma. Signs of fluid in pleural cavity.

Inoculations: Three injections, one of 0.00$\frac{2}{3}$ c.c.; a second of 0.001 c.c.; and a third of 0.002 c.c. were given, and followed by high febrile reaction, vomiting, headache; a severe chill following within twenty minutes of first inoculation.

CASE XXIII. *Phthisis.*—Max F——, aged thirty-four, Germany, salesman, admitted December 3, 1890. Family history—father died of cancer, and mother in childbirth. Present illness is of six months standing. Began with vomiting, pain in throat, and cough with muco-purulent expectoration. Has had several hæmoptyses, sweats at night. Has dyspnœa on exertion, and has lost flesh and strength. On admission, well nourished. Pulse, 124; respiration, 32; temperature, 99° F. Physical examination, beginning phthisis, dulness at left apex in front, and at both apices posteriorly, broncho-vesicular breathing, and pleural râles. Has aphonia; tuberculous ulceration of both vocal cords.

Inoculations: First inoculation, December 12th, 0.002 c.c.; second inoculation, December 13th, 0.003 c.c.; third inoculation, December 15th, 0.003 c.c.; fourth inoculation, December 17th, 0.004 c.c. Temperature rose to 103.6° F. within an hour after first inoculation, and was normal in six hours. Four hours after second inoculation, rose to 103.2° F.; five hours after third inoculation, to 102.8° F. He has had inguinal pain, increase of cough and expectoration, less night-sweats. Has had the usual reaction symptoms; spleen has increased to four and one-half inches. Says upon the whole he feels better, and appears brighter. Voice slightly better.

CASE XXIV. *Phthisis.*—Julie N——, aged nineteen, housework, Austria. Admitted December 6, 1890. Family history, mother and sister died of phthisis. Present illness dates back seven months. Was taken with sudden hæmoptysis while at work, and on following day a second. Was in bed one week, during which time had a third hemorrhage. Complains of slight cough and pain in chest, and night-sweats. On admission, in fair condition.

Physical examination: Incipient phthisis, dulness at left apex, broncho-vesicular breathing, pleural friction sounds and subcrepitant râles.

Inoculations: From December 11th to December 17th received six inoculations from 0.000$\frac{2}{3}$ c.c., to 0.004 c.c. Only after 0.003 c.c. was inoculated did the temperature reach 102.6° F., the rise being before confined to 101.6°F. Her general condition has remained unchanged, cough is

more and expectoration increased. Besides this has had the general reaction symptoms of malaise, etc., to only a moderate extent.

Pott's Disease.—Harry B——, aged eighteen, carpenter. Admitted December 17, 1890. History of Pott's disease involving lumbar spine with pelvic abscess and sinuses in left lumbar region posteriorly, and iliac fossa anteriorly.

Inoculations: From December 10th to 17th, five inoculations up to 0.004 c.c. Save elevation in temperature below 102° F. and slight constitutional symptoms, no change in wounds.

CASES AT THE GERMAN HOSPITAL, NEW YORK, DECEMBER 17, 1890.

Service of A. JACOBI, M.D., and WILLY MEYER, M.D.

[Reported by A. MÜLLER, M.D., Assistant.]

CASE I. *Phthisis.*—Adam H——, aged thirty-nine, gardener; phthisis pulmonalis. History of one year's sickness: hæmoptysis four weeks ago; upper lobes of both lungs involved; large cavity on left side; sputum contains bacilli.

Inoculations: First inoculation, December 11th, 0.001 c.c.; second, December 12th, 0.002 c.c.; third, December 14th, 0.004 c.c.; fourth, December 15th, 0.004 c.c.; fifth, December 17th, 0.005 c.c. After first inoculation a sudden rise of temperature to 105° F., intense sweating, no chill. After fourth inoculation, cough looser, expectoration less like pus than before. Same rise of temperature after each inoculation. General condition good. Physical examination not changed.

CASE II. *Phthisis.*—Alos B——, aged thirty three, druggist; phthisis of one and a half year's standing. Both upper lobes involved; cavity right side; sputum contains tubercle bacilli.

Inoculations: First inoculation, December 11th, 0.001 c.c.; second, December 12th, 0.002 c.c.; third, December 13th, 0.003 c.c.; fourth, December 14th, c.c. 0.004; fifth, December 15th, 0.004 c.c.; sixth, December 16th, 0.005 c.e.; seventh, December 17th, 0.005 c.c. No reaction after first; slight rise of temperature (101.4° F.) several hours after third inoculation. Cough looser; expectoration in quantity not changed; its quality is less pus-like than before inoculation; no chills; no malaise; physical signs unchanged; bacilli found in yesterday's sputum; complaint of great pain at the point of inoculation; after third inoculation, slightly swollen, inflamed.

CASE III. *Phthisis.*—Hubert C——, aged nineteen, clerk. Incipient pulmonary phthisis. Ill since spring of 1890. Both apices slightly involved; no hæmoptysis; sputum contains bacilli.

Inoculation: December 15th, 0.002 c.c. No noticeable reaction.

CASE IV. *Phthisis.*—Moritz P——, aged twenty-one, tinsmith. History of nine months sickness; unable to take food for six weeks. Left upper lobe involved. Both true vocal cords are eroded. False vocal cords show superficial ulcerations. Posterior laryngeal wall is thickened. Bacilli in sputum.

Inoculations: First inoculation, December 13th, 0.001 c.c.; second, December 14th, 0.002 c.c.; third, December 16th, 0.004 c.c.; fourth, December 17th, not given. Large rise of temperature several hours after first inoculation (102.3° F.); after last inoculation patient complains of pain in throat and chest; coughs, expectorates very much more than usual; more infiltration of post-laryngeal walls.

CASE V. *Phthisis.*—Gustave P——, aged thirty-two, clerk. Ill since spring. Right apex slightly involved; symptoms and physical signs not very marked; bacilli present.

Inoculations: First inoculation, December 12th, 0.001 c.c.; second, December 13th, 0.002 c.c.; third, December 14th, 0.003 c.c.; fourth, December 15th, 0.004 c.c.; fifth, December 17th, 0.005 c.c. No noticeable reaction after first two inoculations. After the third patient complains of pain in left side of chest, above. After fourth inoculation, rise of temperature, several hours after (101.6° F.); no chill; cough and expectoration nominal.

CASE VI. *Tuberculous Disease of Knee-joint.*—Anna P——, aged nineteen, tuberculosis of right knee-joint. History of one year's duration.

Inoculations: First inoculation, December 13th, 0.001, c.c.; second, December 14th, 0.004 c.c.; third, December 15th, 0.004 c.c.; fourth, December 16th, 0.005 c.c. Marked pain in knee-joint after first inoculation, extending to hip-joint; slight rise of temperature, 100.6° F. After third inoculation decided diminution of size of affected knee-joint. Slight cough; anorexia.

CASE VII. *Tubercular Pelvic Abscess of Several Months' Standing.*—Jacob P——, aged five years.

Inoculations: First inoculation, December 13th, 0.001 c.c.; second, December 15th, 0.001 c.c.; third, December 17th, 0.002 c.c. Abscess healed, fistula remaining; diminution in secretion from fistula; pains at point of inoculation; sleeplessness; intermitting pulse; face pale, profuse perspiration; stertorous respiration; thirst; rise of temperature to 102° F. after first inoculation, twelve hours.

CASE VIII. *Lupus of Nose and Upper Lip and Left Cheek.*—Wilhelmine K——, aged nineteen. Family history tubercular. Patient sick eight years ago.

Inoculations: First inoculation December 11th, 0.001 c.c.; second, December 12th, 0.0025 c.c.; third, December 14th, 0.004 c.c.; fourth, December 16th, 0.005 c.c. First day, pain, swelling, hyperæmia of affected parts; spreading of inflammation to the left cheek. Second day: Appearance of pustules on nose and lip; redness disappears. Third day: During night sleepless; slight cough; no expectoration; pain in the chest, and at point of inoculation; itching of nose and lip; slight chill. Rise of temperature to 102.8° F. Fourth day: Marked anæmia of affected parts; skin shrivelled; nodules prominent. After this nothing special except slight rise of temperature after inoculations.

CASE IX. *Tubercular Prevertebral Abscess.*—Ida S——, aged sixteen. Eight months' duration; fistula present.

Inoculations: First inoculation, December 11th, 0.001 c.c.; second, December 12th, 0.002 c.c.; third, December 13th, 0.004 c.c.; fourth, December 14th, 0.004 c.c.; fifth, December 15th, 0.004 c.c.; sixth, December 17th, 0.005 c.c. After first inoculation, several hours, temperature 102.6° F. No other symptoms. Second inoculation, slight cough, sleeplessness; secretion diminished, less purulent; more serous. Third inoculation, profuse sweats; temperature up to 102.2° F. Fourth inoculation, moderate rise of temperature only. Fifth inoculation, moderate rise of temperature only. Otherwise no particular symptoms of change.

CASE X. *Tubercular Arthritis of Ankle.*—Augusta M——, aged three years. Ten months' duration; discharging fistula.

Inoculation: First inoculation, December 11th, 0.001 c.c.; second, December 12th. 0.00075 c.c.; third, December 13th, 0.0015 c.c.; fourth, December 15th, 0.001 c.c.; fifth, December 16th, 0.002. After first inoculation, rise of temperature to 104° F., eight hours after; chill none; respiration stertorous, loud; edges of wound reddened; diminished secretion. Second inoculation: Six hours after, temperature, 104° F.; marked somnolence; profuse sweating; dilated pupils. Third inoculation: Rise up to 101° F. only; secretion from fistula less bloody and less purulent; more serous and less in quantity. Fourth injection: Rise to 101.2° F.; wound pale; very slight serous discharge only; fistula seems to close up. Fifth injection: Rise during the night to 100.3° F.; nothing special noticed except spasmodic contractions of right side of neck and leg.

Besides these there were two patients inoculated

for suspected phthisis; quantity, 0.002 c.c.; and one case of suspected lupus, 0.001 c.c.; and one case of disease of elbow-joint (suspected tubercular), 0.001 c.c. These injections were made for the purpose of diagnosis. The case of elbow-joint disease is proven to be tubercular.

CASES AT THE NEW YORK FOUNDLING ASYLUM.

Service of DR. A. JACOBI.

[Reported by DR. CLARK, House Physician.]

CASE I. *Tubercular Meningitis.*—Female, aged nineteen and a half months. Diagnosis, tubercular meningitis, advanced stage. At time of inoculation semi-comatose, respiration irregular and sighing, pulse very irregular and rapid, frequent convulsive movements of arms. Temperature varying from 100° to 102.2° F.; pulse, varying from 130 to 180; respirations, 16.

Inoculation: December 12th, 3.30 P.M., patient was inoculated beneath skin of abdomen with one-half milligramme of Koch's lymph. The temperature, taken every hour, dropped slowly from 101.2° F. at 4 P.M. to 99.5° F. at 9 P.M. The pulse continued irregular, varying from 154 to 176. The respirations increased in number, and at 9 P.M. had become markedly more regular. After 9 P.M. there was a slight increase in temperature to about 100° F., at which it remained until 3 to 4 A.M., December 13th, when it rose one degree and fell again to 100° F. an hour later. At 10 A.M. the temperature rose again, reaching 102° F. at 4 P.M. The pulse increased in frequency during this time, reaching 190 in the early morning, but decreasing to about 160 in the afternoon. The respirations remained at about 28. The coma was, perhaps, slightly less marked, and the convulsive movements of the arms unchanged. There was no local reaction save a papule at site of inoculation, about one line in diameter.

December 13th, 4 P.M.—Inoculated under skin of abdomen with one milligr. of Koch's lymph. Temperature remained slightly above 102° F. until 2 A.M., December 14th, when it fell one-half a degree. The pulse and respirations remained the same. At 9 P.M. (Dec. 13th) the convulsive movements had become much more marked, the arms being raised to the sides of the head and above it. There was an occasional short cough. The child moaned frequently and was restless. During the morning of December 14th the convulsions became almost continuous, the arms being now held at or near the sides, forearms strongly supinated, hands flexed on wrists, fingers and thumbs flexed on palms. Abdomen somewhat distended. External strabismus marked, pupils contracted. Moaning louder and more frequently.

11 to 11.30.—Changed suddenly. Temperature, which at 10 A.M. had been 102.8° F., had now risen to 105° F., the pulse was 190–200, and the respirations 95–100. The convulsive movements stopped entirely.

The child sank slowly and died at 1 P.M.

CASE II. *Tubercular Abscess.*—Male; aged five years, eight months. Diagnosis, tubercular abscess discharging from sinus in right inguinal region, of five and one-half months' duration. Temperature generally normal, but with occasional accelerations. At time of inoculation temperature was 99.5° F.

December 13th.—Inoculated under skin of abdomen with one-half milligramme Koch's lymph. At midnight the child was wakeful and complained of pain at site of inoculation; this, however, was certainly not marked. The temperature did not begin to rise until between 2 and 4 A.M.

December 14th.—At 4, it was 101°, at 8 A.M., 102.2°, and at noon, 103° F. The pulse and respirations were also accelerated, the former reaching 156, the latter, 38. The temperature remained at 103° F. until between 4 and 6 P.M., when it began falling, but did not reach normal, 98.5°, until 6 A.M.

December 15th.—There was now noticeable a slight induration at site of inoculation, and a faint blush on the skin in this region. Pressure here gave pain. At 4 P.M., the temperature then being 99.2° F., pulse 132, and respirations 30, the patient was again inoculated beneath skin of abdomen with one-half milligramme of the lymph. At 8 P.M. the temperature had risen one degree, with corresponding rise in pulse-rate to 144. There was no further change until 4 A.M., December 16th, when the temperature had increased to 100.8° F. From this time it dropped, reaching 99° F. at 2 P.M. At 4 P.M. the patient was reinoculated with one milligramme of lymph, the dose being increased on account of the slight reaction which had followed previous injection. There were no further symptoms attributable to the effect of the lymph, save that from twelve to sixteen hours after the first inoculation the discharge from sinus was thought to have materially increased. It has since remained as usual.

CASE III. *Spinal Caries.*—Male, aged four years and nine months. Diagnosis, spinal caries; dorsal kyphosis of over two years' duration.

Inoculation, December 13th. Temperature at time of inoculation 99.2° F. At 4 P.M. patient was inoculated under skin of abdomen with half a milligramme of the lymph.

December 14th.—At 2 A.M. the temperature began to rise, reaching 102.5° F. at 4 A.M.; and 103° F. at 2 P.M., from which time it gradually declined to 99° F. at 10 P.M. During the elevation in temperature the pulse reached 156, and the respirations 42. Through the night of the 13th to 14th, the patient was somewhat restless but showed no further reaction.

December 15th.—In the morning some induration had appeared at site of inoculation, together with a faint pink blush on the skin at this place. At 4 P.M. inoculated under skin of abdomen with half a milligramme of lymph.

December 16th.—Temperature rose one and a half degree between 2 and 8 A.M. (*i.e.*, it reached 100° F.). There was also a slight rise in pulse and respiration rates. No further reaction. At 4 P.M. inoculated with one milligramme of lymph.

December 17th—At 4 A.M. the temperature had reached 100.5° F., the pulse 144, and the respiration 36. No further reaction.

CASE IV. *Acute Peritonitis of Left Tibia.*—Male, aged four years. Previous history: October, 1889, operation for acute periostitis of left tibia, lower third; sinus established three months later. November, 1890, sequestrotomy, lower third of left fibula, making good recovery. November, 1890, enlargement in region of, and above right knee, apparently not inflammatory; somewhat painful to touch. Enlargement of glands of right side of neck, non-inflammatory.

Inoculation: At time of inoculation temperature had been normal for two weeks.

December 13th, 4 P.M.—Inoculated with half a milligramme of lymph, beneath skin of abdomen.

December 14th.—Between 6 and 8 A.M., temperature began to rise, reaching 101.8° F. at 2 P.M., from which time it gradually declined to 98.5° F. at 12 M. Corresponding to the rise in temperature the pulse reached 144, and the respirations, 36. During the afternoon, there appeared some induration at site of inoculation with a slight reddening of the skin. Tongue lightly furred, reddened at tip and edges, papillæ prominent. No further reaction.

December 15th, 4 P.M.—Inoculated with half a milligramme of lymph.

December 16th.—Slight febrile reaction between 6 A.M. and 12 M. Temperature reached 100.5° F., pulse 138, and respirations, 32. There appeared, also, a fine, pale, papular rash over most of body, thickest on abdomen, thighs, and about neck. No further reaction.

4 P.M.: Inoculated with 1 milligramme of lymph.

December 17th, 8 A.M.—Temperature had reached 100.5° F., pulse, 134; respirations, 36. No further reaction.

CASE V. *Tuberculosis of Ankle.*—Female, aged five. Two years ago the left ankle was excised and bacilli found. One year ago, right hip-joint became diseased. Between seven and eight months ago a sinus was established at hip which has since been discharging. There has been, off and on, periods of considerable pyrexia, the last, about four weeks ago.

The temperature at time of inoculation was 101.5° F. This temperature is thought to be due to agitation on the part of the child, as it fell to 99.5° F. between two and three hours later.

Inoculation: December 13th, 4 P.M., inoculated with half a milligramme of lymph. December 14th at noon the temperature had reached 101.2° F.; pulse, 136; respiration, 36. From this, the temperature slowly declined to 99.5° F. at midnight. The discharge from sinus was thought to have increased considerably; it has since returned to its usual amount.

December 15th.—There is slight induration and some reddening of the skin at the site of inoculation. At 8 A.M. the temperature again began to rise, reaching 103° F. at noon. From this time it declined to 99° F. at 8 P.M.

4 P.M.: Inoculated with half a milligramme of lymph.

December 16th.—The temperature began rising at 2 A.M., and at 2 P.M. had reached 103.2° F., the pulse being 158 and the respiration 42.

4 P.M.: Inoculated with one milligramme of lymph.

December 17th.—Reaction comparatively slight. Highest temperature, 100.2° F. at 4 A.M. and 101.8° F. at noon; otherwise, the temperature has been below 100° F. The pulse reached 144 and respirations 36.

CASES AT THE POLYCLINIC HOSPITAL.

Service of DR. HEINEMAN.

DR. H. N. HEINEMAN has treated two cases of males, twenty and twenty-two years age, one with incipient phthisis, and the second with phthisis in second stage; having broncho-cavernous breathing at right apex and consolidation at left apex. The first gave ancestral history; the second, family history negative. Both have a history of one year's duration. The first has had repeated hemorrhages up to two months ago; the second has ulceration of vocal cords. In both cases two injections of 0.001 c.c. and 0.002 c.c. have been given.

Reaction moderate as to constitutional symptoms; temperature below 101° F.; spleen large in both cases. Cough increased in both. Moderate malaise and headache, splenic and hepatic discomfort.

Negative Results in Examination of Sputa.—Dr. T. Mitchell Prudden, of the Laboratory of the Alumni Association, College of Physicians and Surgeons, writes: "The variation in the number of tubercle bacilli in the sputa is often so considerable from day to day, under any treatment or no treatment of phthisis, that as yet the numbers found after the use of the lymph cannot be fairly considered as of especial significance. There is not sufficient data as yet for any conclusion."

At the St. Mark's Hospital.—Thirty injections were made by Dr. L. Weber upon seven patients during the past week. Only twice was there a high febrile reaction, amounting to 104½° F. In some patients a copious expectoration was noticed, which afterward decreased considerably and became less than it was previously. In one patient with a tuberculous ankle-joint, which had been previously resected by Dr. Beck, and in another who had suffered with enlarged cervical glands which had been extirpated, no local reaction was observed about the diseased surfaces.

The Lymph in New Haven.—The lupus cases for which lymph inoculation was made in New Haven, and previously reported, are said to be improving, and the examinations of the sputa in the tubercular cases show a progressive decrease of bacilli.

The Lymph in Philadelphia.—The first injections of the lymph made in Philadelphia by the University Commission were on the 17th, in the case of a patient suffering from tuberculosis of the knee-joint, and one from tuberculous phthisis. Professor J. William White was the operator. A patient with tubercular phthisis was also operated upon the same date at the Jefferson Medical College.

KOCH'S METHOD IN LONDON.

(From our Special Correspondent.)

LONDON, December 3, 1890.

Two public demonstrations of Koch's method have just been given in London. One of these was given on Monday evening, by Dr. Heron, at the City of London Hospital for Diseases of the Chest, Victoria Park; the other, at King's College Hospital, this morning, by Mr. Watson Cheyne, one of the surgeons to the hospital. I have attended both of these, so send these few notes by to-day's mail for the early information of your readers.

At Victoria Park Hospital the cases shown were those of patients suffering from pulmonary phthisis, with the exception of a few cases of cutaneous lupus kindly provided by Dr. Radcliffe Crocker, and admitted temporarily (for teaching purposes) into the wards of the Victoria Park Hospital. Dr. Heron's demonstration was given in one of the wards of the hospital, converted for the time being into a lecture-room; between one and two hundred medical men were present. Before showing any patients Dr. Heron gave a short address on the subject. He emphasized the importance of not being too sanguine as to the efficacy of the remedy in cases of pulmonary tuberculosis—at any rate in cases of advanced disease. Koch himself had at first only thought that it would be applicable to cases in which there was tubercular disease of glands, bones, or joints, or to cases of lupus of the skin. In cases of phthisis it could not be expected to be curative unless applied in the early stage. These limitations, said Dr. Heron, should be borne in mind. He had not, when in Berlin, seen enough of its action on advanced cases of phthisis to form any opinion himself as to its probable value in them.

A small bottle of the fluid was handed round for inspection. It was explained that two dilutions of it were in use, viz., a one per cent. solution and a ten per cent. solution. These were prepared from the original liquid by diluting it with distilled water; if the latter contained one-half per cent. of carbolic acid the resulting solution was less likely to undergo decomposition. Owing to the dilutions keeping badly they should be freshly prepared—say within a week of using them. One cubic centimètre of the one per cent. solution contained 0.01 c.c. of the remedy; this had been shown to be the smallest dose which produced any effect at all in a healthy adult. Tuberculous patients were more sensitive to the action of the remedy, and to them the initial dosage was usually 0.001 c.c. or 0.002 c.c. of the one per cent. solution. Dr. Heron observed that a somewhat different method was adopted in cases of lupus and in cases of phthisis. In the former, a full dose (0.01 c.c. of the one per cent. dilution) was administered, and a second injection not given for a week or more. In cases of lung disease small doses were given to begin with (0.001 or 0.002 c.c. of the one per cent. dilution) and repeated daily—the dose being gradually increased until it reached the same as that given to patients suffering from lupus. In either case the injections were continued until they failed to produce any

reaction. In early cases of phthisis the period of time necessary to obtain this result was about six weeks. The syringe employed—a description of which has already appeared in the MEDICAL RECORD—was passed round for examination.

Several cases were then exhibited, on whom the remedy had been tried. The first patient shown had been injected in the morning, and the reaction was at its height. The patient was a man suffering from early phthisis; his bed was carried into the ward in which the demonstration took place. In six hours his temperature had risen from 98° to 104° F., the pulse rate had increased from 90 to 148, and the respirations from 24 to 33 per minute. The rise of temperature had been preceded by a slight rigor. Eleven hours after the injection the temperature was 103.6° F. In most cases the temperature rose in from three to five hours after the injection and reached its highest point (which might be 106° F.) in from ten to twelve hours after the injection. Dr. Heron remarked that his experience was that shivering and nausea were by no means constant symptoms; in only one of his cases were rigors marked. Several other patients were then shown; most of these were cases of early phthisis, but a few were examples of lupus. Dr. Heron said that he had made it a rule not to inject any phthisical patient except those in whom bacilli had been proved to be present in the sputum. One patient he had injected as a control experiment, and the result was interesting. The case was that of a young woman, suffering from anæmia and amenorrhœa; breathing was not good, but there were no physical signs indicating tubercle. The second injection was followed by a marked reaction. The obvious inference was that tubercle was present, though I believe Dr. Heron did not state this inferenee in explicit terms. Two cases of lupus were shown. In one of these the reaction was at its height—the patient's temperature being elevated and the lupoid tissue red and swollen; in the other, sufficient time had elapsed since the last injection for the reaction to subside, and signs of amelioration were already present, as evidenced by comparing the condition of the patient with her appearance in a photograph taken before the commencement of treatment. The demonstration was terminated by injecting a few patients in the presence of the audience.

Mr. Watson Cheyne's demonstration was given this morning, in the operating theatre of King's College Hospital, which was crowded to its utmost capacity. Before having the patients brought in, Mr. Cheyne made a few prefatory observations. He was ignorant, he said, both of the composition of the remedy and of its method of preparation, and he had refrained from questioning Dr. Koch on the subject, as he did not wish to be the possessor of a secret which everybody thought he ought to have. Mr. Cheyne said. there was no doubt that Dr. Koch would communicate his process in due time. There was no question of its being kept as a secret remedy, but at present there were difficulties in its preparation. The strength of different samples was found to vary, and every one had to be personally tested by Dr. Koch before being sent out. If the process were now revealed, the preparation would probably be manufactured on a large scale and in such a manner that satisfactory results would not be obtained, and, as a consequence, the remedy would fall into discredit. Dr. Koch was most anxious to avoid the latter result.

Mr. Cheyne said it was uncertain how the remedy acted, but he had himself constructed a working hypothesis, for which, however, he alone, and not Dr. Koch, was responsible. His hypothesis was as follows: Certain substances, he suggested, were produced by the bacilli, and to their irritant action was due the growth of tubercular tissue. (In the case of pyogenic organisms it was now, he said, admitted by bacteriologists that it was not to the organisms themselves but to their chemical products that suppuration was due.) Koch's remedy probably contained some substance which combined chemically with the bacillary products to form a fresh compound, which had extremely irritant qualities and produced destruction of tubercular tissue. On this hypothesis it was explicable how the action of the remedy was limited to tubercular tissue only. Mr. Cheyne said he did not wish to insist on the accuracy of his view, but it was necessary to have some such hypothesis in order to work with the remedy.

The theory put forward would suggest the desirability of only giving small doses in the case of tubercle of internal organs, as, for example, the kidney, where the resultant inflammation might have an ill effect; in tuberculosis of external parts larger doses might be ventured on. Mr. Cheyne observed that the remedy, whatever its nature, was evidently a powerful poison and should only be used with the greatest care.

A number of patients were then brought into the theatre. Several cases of lupus were shown. One of these had been operated on twenty-four times and the alæ of the nostrils were partly destroyed. Mr. Cheyne said that in this case it was inadvisable to give the full dose in consequence of the swelling of the nasal passages which would probably result. Several cases of disease of bones and joints were shown; in one of the latter no reaction had been produced, and the disease was therefore probably not tubercular. A young child was shown who had been operated on for encysted hydrocele, and on whom also circumcision had been performed before he left the hospital. Six weeks later the circumcision wound was unhealed, and (in Mr. Cheyne's opinion) had become tubercular. The old wound in the scrotum had reopened. One testis became tubercular and was removed. Mr. Cheyne determined to employ Koch's remedy. (The parents of the child had expressed a wish to take him to Berlin.) When shown this morning the child appeared very ill and much emaciated. The first injection was then made— only a small dose being given. A most interesting case was one of tubercle of the iris, which was brought in a cab from the Moorfields Ophthalmic Hospital to be injected. In this case Mr. Cheyne remarked that it would be unwise to provoke any considerable degree of inflammation, and he accordingly injected only one-tenth of a centimètre of the one per cent. dilution.

Intubation without Gag or Extractor.—Dr. Guido Bell, of Indianapolis (*Journal of the American Medical Association*), says that he has discarded both the gag and the extractor. The child being seated on an attendant's lap, he passes his left index-finger into the mouth and behind the root of the tongue. On this the little patient "gags," and the larynx rises to the operator's finger, when the tube is at once pushed into the larynx with the right hand and kept in place for a moment with the left. The thread is then fastened to the patient's cheek. The advantages of this method, according to Dr. Bell, are that no assistant is required, the child is not excited and does not dread a repetition of the operation, and the tissues of the pharynx and larynx are not injured by sudden movements of the patient. Dr. Bell states that the child's glottis gives to the finger much the same sensation as the os uteri. If it feels "smeary," the suffocation is said to be due to membrane rather than to œdema. Dr. Bell has intubated in the way described over a hundred times, and has been successful in introducing the tube at the first attempt except in two or three "asphyxiated cases." He removes the tube without an extractor by simply grasping the larynx externally with the fingers and pressing it out. Dr. Bell has done this in five cases in which removal with the extractor had completely failed. But his estimate of intubation is not very encouraging. He says it has not very much increased the percentage of recoveries in his practice, and most of the little patients have died. Perhaps Dr. Bell will improve his statistics by returning to the use of the gag and extractor.

Society Reports.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON SURGERY.

Stated Meeting, November 10, 1890.

ROBERT ABBE, M.D., CHAIRMAN.

Rupture of the Short Head of the Biceps Brachialis.—DR. V. P. GIBNEY presented a man, forty years of age, who had obtained excellent use of the arm after rupture of the short head of the biceps brachialis, which took place while lifting some object of weight. The only treatment which it had received was rest and the application of a bandage.

Epithelioma of the Nose; Plastic Operation.—DR. I. H. HANCE presented a woman who showed very good results from a plastic operation to repair the ravages of an epithelioma invading the nose.

Fracture of the Sternal End of the Clavicle.—DR. B. E. VAUGHAN presented a lad who had sustained a fracture of the clavicle in an unusual location, near the sternal end. A very fair result had been obtained by the use of strips of adhesive plaster and pads which exerted pressure.

DR. CHARLES A. POWERS showed photographs of a case which he had treated for fracture in the same location. The patient had previously been treated for a like fracture in the other clavicle, in London, which showed a greater amount of deformity.

Rupture from Trauma in Ectopic Gestation at about the Fifth Month; Laparotomy; Recovery.—DR. THOMAS H. MANLEY presented the fœtus, some clots, and the patient, in a case of ectopic gestation. The woman had fallen into a trench about nine days before she came under his care, and afterward suffered pain in the region of the lower abdomen. She had ceased to menstruate in April, some five months before, and had afterward shown the usual symptons of ordinary pregnancy. She had a flooding two days before he saw her, and an obstetrician supposed there had probably been an abortion. Dr. Manley found distinct signs of peritonitis, and in the left iliac fossa he felt a fulness. Supposing this might be pus, he recommended an incision. The patient was much exhausted, and it was a question whether she would survive. The next morning, in the presence of Dr. Malcolm McLean and others, he made a medium incision, came down upon a mass of blood-clots, and then upon a placenta, and after some search found the fœtus near the right kidney. The fœtus was about eight inches and a half in length, and evidently had reached the fifth month. The operation was one of the simplest which he had ever performed; there was very little hemorrhage; the woman made a very good recovery, and was present at the meeting.

The case was an extremely rare one. Dr. Thomas had stated that only two cases had been recorded in this country in which the woman had recovered after rupture from traumatism in ectopic gestation past the fourth month.

Hysterectomy for Interstitial Fibroid.—DR. MANLEY also presented a large fibroid mass, with the uterus attached, which he had removed on Thursday, in a case in which various diagnoses had been made and various modes of treatment had been resorted to, including electricity, but without benefit. The patient bade well to recover promptly.

Division of the Sterno-cleido-mastoideus for Complete Removal of the Cervical Glands.—DR. FRED. KAMMERER presented a man, and referred to two other patients, on whom he had extirpated all the glands of the neck to avoid recurrence in cases of large lymphomata; access to the glands being acquired by division of the sterno-cleido-mastoid muscle below. The wound was united by first suturing the muscle separately, then the skin separately, and the result has been normal mobility. He advised more common resort to this method of securing complete extirpation of the glands in tubercular enlargement and malignant disease, thus preventing reformation.

Humphrey's Operation for Anchylosis of the Jaw.—THE CHAIRMAN presented a young man, aged twenty-one, who when two years of age had scarlatina with suppurative otitis, which resulted in anchylosis of the jaw. He came to him when ten years old. The jaw seemed completely anchylosed on the left side. Possibly slight motion on the right. He then performed Humphrey's operation, cutting down on the left side, exposing the carotid artery and facial nerve, and removing the neck of the condyle. There was paralysis of the facial nerve for a short time, but the wound healed, and very good motion was obtained and had remained permanent. He also showed a young lady whose jaw had been anchylosed since the age of thirteen, when it sustained a fracture. The teeth and alveolar processes were in very bad condition, the jaw had rather an infantile appearance, yet the temporal and masseter muscles showed action, and he expected to get a good result from an operation. The ramus was shorter in her case, and a somewhat different operation would be performed, one similar to that done by Dr. Little in 1873. He remarked that bony anchylosis here was very rare; it was usually fibrous.

DR. GOODWILLIE referred to a case in which a surgeon had broken the muscle, when forcibly opening the mouth following an operation for anchylosis. Dr. Goodwillie was subsequently able to get a very good result by gradually opening the mouth by wedges. This method he thought would succeed where there was slight, though nearly imperceptible, movement.

DR. REGINALD SAYRE had also got very good motion in a nearly immovable jaw by wedging.

External and Internal Urethrotomy for Strictures following Gonorrhœa in a Boy Four Years of Age.—THE CHAIRMAN also read the notes of a case of gonorrhœa in a child aged three years and nine months, the disease having been contracted from a nurse. It was followed, six months after the discharge was supposed to be cured, by inability to pass the urine. He was taken to St. Luke's Hospital, where they were unable to pass the smallest instrument. The bladder was aspirated. There were three anterior strictures, and a tight one at the membranous portion which barely admitted a filiform instrument. The anterior strictures were divided by Otis's urethrotome, the posterior by external urethrotomy. The latter was found to be a tight, gristly stricture. Rather to their surprise, they found Dr. Bangs's suggestion correct, that the calibre of the urethra in this case, as was true in adults, was proportionate to the circumfer ence, and after the operation a No. 24 French was introduced. The gonococcus had been present.

DR. BANGS said he had never before met with stricture following gonorrhœa in so young a subject.

DR. VAN ARSDALE, who had a dispensary class of female children, said he had seen many cases of gonorrhœa in the young. Within the past month three had come under his notice, the youngest being a female child aged only ten months. He saw about ten cases a year in very young subjects. The disease was very difficult to treat, because of the small size of the orifice. Eczematous eruption was likely to take place from the accumulated discharges, and to avoid this he passed a small sound made for the purpose. Being asked what he considered the origin, he said it was usually from sleeping with parents who had gonorrhœa.

DR. SYMES said he had formerly seen a good many cases of gonorrhœa in children, and on inquiry had learned that it often arose from a supposition, among the ignorant, that they could get rid of the disease themselves by giving it to somebody else.

THE CHAIRMAN said Dr. Willard Parker had given expression to the same opinion once, that the ignorant sup-

posed they would get rid of gonorrhœa by giving it to somebody else.

Dr. Agramonté thought the disease occurred more commonly among female children than among males, because of the accessibility of the genitals in the former to the filthy hands of nurses. But Dr. A. Van Arsdale thought the cases in the two sexes about equal in number.

The Mechanical Treatment after Vertebral Fracture.—Dr. John Woodbury read a paper and presented two patients with vertebral fracture, one operated upon by Dr. Charles McBurney, the other not operated upon. While confining his paper almost entirely to the after-treatment, he remarked that an operation had been resorted to in several reported cases, but it was to be observed that it was undertaken late, as a last resort. He suggested that an early operation, before serious changes had had time to take place in the cord, would probably offer much better results.

The case operated upon by Dr. McBurney was in a patient two and a half years of age, who in June, 1889, fell from a bed to the floor, striking upon the back. The history from June until August was comparatively a blank; whether paralysis came on immediately or later, it was impossible to learn; probably it was immediate. When admitted to the hospital, August 8th, the child was incompletely paraplegic; there was complete loss of sensation in the left lower extremity and also in the right, except in the great toe and sole of the foot. The child was very irritable, exceedingly emaciated; no temperature elevation. Dr. McBurney cut down upon the third, fourth, and fifth dorsal vertebræ, and removed thickening in the laminæ and in two spinous processes by rongeur forceps. There was no evidence of fracture of the body of any of the vertebræ; the dura was of normal appearance and was not opened. After the operation the irritability was much less, there was steady and rapid gain in weight, but the muscles of the lower extremities remained largely in their old condition.

The patient was turned over to Dr. Woodbury to give it support, which he found exceedingly difficult on account of the helpless condition of the body and limbs. Finally he resorted to a method of horizontal suspension and applied a plaster-of-Paris jacket. He made a hammock of four thicknesses of cheese-cloth, perhaps twenty feet in length, swung so that it could be put on any degree of tension. The child was laid on this, and slits cut, through which its arms and legs projected, and also one for the face. The legs held up by one assistant, the hands by another, any degree of extension could be made by pulling on the ends of the hammock. In this position the plaster-of-Paris jacket was applied over a knit shirt, the hammock also being included beneath it. The ends of this were cut off when the plaster hardened. Later the jacket was cut in front and made to lace like a corset. The child was now able to stand alone, and had regained control of the rectum and bladder. In the other case, in which no operation was performed, the child fell several stories down an air-shaft, and besides sustaining several superficial injuries, was unable to lift the head, the chin resting on the sternum. When lifted back it remained in that position. He was unable to say whether the first or second cervical vertebra or the occipital bone was broken. He placed the child in a plaster-of-Paris jacket, applied in the manner just described, and attached a jury-mast, after which rotation had been possible, and pain relieved.

Dr. Reginald Sayre thought great care had to be exercised in applying the plaster jacket in cases of fracture of the spine, if one was not to do more harm than good. His father had treated several cases of supposed fracture of the spine, applying extension and fixation by the jacket, the result in one having been a cure, in one paralysis remained, in a third the man looked strong and well, but became easily fatigued and was impotent. He could not imagine a better method of applying the jacket in these helpless, paralyzed cases than the one described by the author.

Dr. Samuel Lloyd referred to the case of an engineer who had been operated upon for an ununited fracture of the third lumbar vertebra, causing anæsthesia of nearly the whole right side below, of a small portion of the left side, and involving the bladder and rectum. These symptoms had progressively disappeared since removal of pressure by the operation, and the man was able to return to his work. He thought the cases narrated showed that we should look for gradual, not for immediate, improvement after operations for pressure on the cord.

Dr. Ketch was disposed to think the fracture in Dr. Woodbury's unoperated case was lower down than had been described.

Correspondence.

OUR BERLIN LETTER.

THE KOCH INOCULATIONS AND THEIR PROGRESS—OF NO USE IN ADVANCED CASES OF PHTHISIS—REACTION AS A PROOF OF DIAGNOSIS—SURGICAL OPERATIONS NECESSARY AFTER INOCULATION FOR TUBERCULOUS GLANDS.

(From a Special Correspondent.)

Berlin, November 24, 1890.

As all the Berlin hospitals and most of the University clinics in Germany have now been supplied with and are using Professor Koch's specific lymph for tuberculosis, certain well-established facts which bear out Koch's claims for the remedy have been brought out by experience; but, as Professor von Bergmann said to day, there have been no patients cured yet.

Berlin has become the Mecca toward which many anxious faces and feet are turning, the sick to be healed and many hundred physicians to get the means to relieve those who are looking to the new remedy to help them, but both classes as yet are disappointed.

There are hundreds of cases under treatment here, and to the physician who has not seen the large number of cases of lupus under treatment, it does not seem possible to get fifty cases together in one city, but such is the case here, and more are coming in daily.

The first effects of the remedy are as well known now as they probably will be for some time, and the after-effects, especially the permanency of the so-called cures, will not be known for a number of months.

In phthisis pulmonum with large cavities the disease has not been arrested or cured, but has taken its usual course.

In the first stages there is the typical reaction—fever, chill, general malaise, etc.—the sputum loses its purulent character and becomes more glassy, while the bacilli gradually disappear, the night-sweats cease, and the appetite increases. But as Koch only claims that the tubercles are affected while the bacilli may remain, the question of getting rid of them will be an important one, and may require a return to our former remedies to promote calcification or healing of the affected parts.

It is in lupus that the specific action can best be studied; but even in these cases it is only the superficial and ulcerated tubercular nodules which are wholly destroyed; and though the deeper ones may be affected they are not cast out, and may, in other forms of the disease, remain a source of new infection.

A typical reaction is as follows:

First injection: In from four to ten hours temperature 40° C., accompanied by chill and vomiting. Second injection usually given in from forty-eight to seventy-two hours, when all symptoms from first have disappeared. Temperature 39° C., other symptoms not so severe, and fever does not last as long. Third injection: Temperature 38.4° C.; fourth, 38° C.; fifth, about the same as the fourth, and no reaction usually after the sixth or seventh, though it may be produced frequently by increasing the dose.

The local reaction is characteristic. There is congestion of the affected parts and scars, followed by a serous exudation which dries into crusts and this always takes place during the febrile reaction, though there may be reddening without fever. A number of patients have had an eruption which has the appearance of scarlet fever and is followed by a flaky (?) desquamation.

There are many variations from the type given, as the temperature sometimes goes up to 40.9° C., even after the third injection, and severe general depression, nervous symptoms, vomiting, and diarrhœa have occurred in a number of cases. In cases of diarrhœa it is possible that it is produced by the exudation from tuberculosis of the intestines. In hip-disease, white swelling, and tubercular bone disease the constitutional effects are the same, and the local are made manifest by increased soreness, reddening and the breaking of abscesses which are inflamed by the action of the remedy.

In cases where there are existing abscesses the constitutional and febrile reaction is retarded or slight, which might go to prove that the tubercles are already broken down. The surgeons who have used the remedy are agreed that it will be necessary to follow up the treatment by the usual surgical operations, opening of abscesses, resections, etc., to get rid of the broken-down tubercles and to prevent reinfection by the bacilli which may be present.

For the present it is thought that the greatest worth of the remedy is its value in diagnosis. We will know its curative value in the future when the first excitement is over and time has either verified or disproved present results.

HOW TO GET ALONG IN BERLIN.

NECESSARY TO UNDERSTAND GERMAN—HOW THE CLINICS ARE MANAGED—CHANCES FOR SPECIAL INSTRUCTION—CARE TAKEN IN CLINICAL INSTRUCTION—RAPIDITY OF OPERATION—MARTIN'S METHODS AND HIS UNIQUE ANTISEPTIC OUTFIT—OPERATING WITH A SWIMMING-SUIT—SPECTATORS EXPECTED TO BATHE BEFORE COMING TO OPERATIONS—THE FAT NURSE AND HOW SHE GETS THERE—LOOKING AFTER THE NAVEL.

(From a Special Correspondent.)

BERLIN, November 29, 1890.

WHETHER the student of medicine shall find Berlin a fruitful place for study depends on his advancement in knowledge. If he is in search of elementay instruction—the principles of obstetrics, the diagnostic methods of gynecology, or of general surgery—he can obtain excellent advantages. If he understands German—and it is nearly useless for him to come here without understanding and speaking it—the university courses now in progress afford all he could ask. For instance, in surgery daily clinical lectures are given by Professor Bergmann, and the students on his roll are called down into the amphitheatre, and required to describe, and, if possible, to diagnose some surgical case. Rather sad work they make of it at times, which is hardly surprising when we consider the circumstances. Great stress is laid upon description. "What do you observe?" is the question put over and over by the examiner. If it be a tumor, then where, on what limb or surface, how shaped and bounded, movable or immovable, color, consistency resonance—all possible physical characteristics are sought and expressed in words. After this thorough observation comes the history, then the diagnosis is dwelt on at length, and all affections giving similar appearances are reviewed. The needful operation is then done by the teacher with consummate skill. No one who has seen von Bergmann operate, with strict precision and yet great speed, on case after case, can help feeling that he has been in the presence of a great master of surgery.

Bergmann's first assistant, Dr. Schlange, gives a fine course in practical surgery. The student is here called upon to make diagnoses, apply dressings, and even to perform operations.

In obstetrics and gynecology the student obtains at the Frauenklinik a good deal of practical work. He is drilled in the signs of pregnancy in the wards, does obstetric operations on the manikin, and is assigned confinement cases in the city. In diseases of women he is practically drilled in making examinations, and a few are from time to time invited to witness the operations. These are done usually about seven o'clock in the morning, an uncomfortable custom much in vogue in Germany.

And so with other branches—the skin, the throat, internal medicine. All these subjects are taught in a thorough and practical manner.

There come to Berlin, however, a goodly number of older men in search of special teaching. They have practised already perhaps ten years, and know pretty well just what they want. They do not care for didactic lectures, nor to be drilled on the signs of pregnancy, nor to do minor surgery under criticism. They come for advanced instruction—in the throat, or in surgery, or in nervous diseases—or perhaps they wish to witness laparotomies or the rarer obstetric operations. I believe I express the opinion of all the older men in Berlin when I say that for such instruction this city does not offer great or numerous advantages—certainly not during the semester. At this time the teachers give themselves up to the younger students. The difficulties which one encounters in the search for some sorts of post-graduate instruction are often exasperating. Suppose, for instance, it is gynecology which one wishes to work up. (I instance this branch because most Americans are interested in it.) First one looks to the University Catalogue, but it quickly appears that the lectures and clinics advertised here are for younger students. So of the courses advertised on the black-boards at the University, the Charité, the Frauenklinik, and other hospitals. It would seem natural that the University officers should give one information on such matters; but inquiry here elicits only a smile and a shrug. "How can I find what I want?" that is the question which agitates the minds of most of the older students who visit Berlin. It finally appears that one or two post-graduate courses are given in gynecology, but are never advertised—why, does not appear. Inquiry then elicits the discouraging information that one is already full, and the other perhaps will be given, or perhaps not.

But there is at certain seasons an effort made in Berlin to provide post-graduate teaching. In October, and I believe, in January, the privatdocents and other teachers offer what are termed *Ferien* courses in all branches of work. These last one month only, but, though much overcrowded, are interesting and profitable. At such seasons one has an opportunity of becoming familiar with many famous men's work. For example, one can learn Martin's methods in gynecology by attending his private hospital several times a week, and witnessing his operations. During this time one makes some examinations, and perhaps does some small operation such as curetting. But one learns most from observation.

Martin himself is a very stout man, and is assisted by an extremely fat nurse. She is nearly as remarkable a personality as the great privatdocent himself. She has invented several of his instruments, and his table for laparotomies. This is of galvanized metal and stands in a tub. It is only long enough to support the patient's head and trunk and hips. The lower limbs hang entirely over the end, and the operator sits between them. The room is very warm, and visitors lay aside coats and vests before entering. Everyone is expected to take a bath before attending these operations. The operator wears a rubber over-all and rubber boots, and when ready for work looks extremely like Captain Boynton about to take a swim. The patient is prepared in another room. While chloroform is being given, the mons, vulva, and abdomen are shaved and scrubbed, and the vagina is irrigated and cleaned with the hand. The patient is then

carried into the operating room, receives a final douching, and rubbing, particular care being bestowed upon the umbilicus. The abdomen is then rapidly opened by a generous incision, and the diseased organs examined and dealt with. Speed is considered of great importance. I have seen Dr. Martin operate for a small ovarian tumor and have the abdomen sutured in seven minutes, and again saw him remove a diseased ovary in six minutes.

During this time the stout nurse handles all instruments, threads needles, cuts ligatures, sponges out the cavity, and now and then wipes the perspiring countenance of the privatdocent. The only other assistant, except those giving chloroform and watching the pulse, sits on the patient's left, and holds the intestines out of the way. After the wound is closed the middle third of the table top drops, so as to permit the body-turns of a spica to be passed readily. All the cases observed passed through an entirely aseptic course, among them being ordinary ovariotomies and oöphorectomies, a vaginal extirpation of the uterus, and supravaginal hysterectomies—in one of which an enterorrhaphy had to be made, owing to a wound of the adherent intestine.

Other valuable vacation courses are held by eminent specialists in all departments. It is, however, difficult to avail one's self of as many as one would like, for the reason that the most desirable occur at about the same hour, and for the further reason that the hospitals and clinics are so widely scattered about the city that long rides in the street-cars are necessary.

OUR LONDON LETTER.

(From our Special Correspondent.)

URATOSIS—THE HARVEIAN LECTURES—SOME INTERESTING CLINICAL CASES—OPERATIONS FOR VESICULAR CALCULUS IN CHILDREN—THE RANK OF ARMY MEDICAL OFFICERS.

LONDON, November 22, 1890.

URATOSIS is the term proposed by Sir William Roberts to signify the deposition of the crystalline urates in the tissues or fluids of the body, considered as a separate pathological incident. He maintains that it would tend to clear conceptions of the subject if we were to isolate in our minds the precipitation of the crystalline urates as a detached and independent pathological occurrence, separate from all antecedent and collateral incidents, and erect it into a precisely definable symptom or physical sign apart from everything else. The presence of sugar in the urine was formerly regarded as synonymous with diabetes, but glycosuria was now regarded as a symptom, and we must add something thereto to complete our conception of classical diabetes. So with albuminuria and Bright's disease. Another example was the separation of venous thrombosis from phlebitis, with which it was formerly confounded. Sir William Roberts urged these views with some force at a meeting of the Medical Society, on Monday last. He suggested that we should, by adopting his proposal, gain several advantages besides that of avoiding a certain amount of circumlocution. We should, in the first place, bring into clearer relief the distinction between uric acid dissolved in the blood, and uric acid precipitated as crystalline urate—or, to use the new phraseology, the distinction between lithæmia and uratosis. The differences between these two conditions were important, and deserved more attention than they had hitherto received. In lithæmia the exact state of the uric acid was not precisely known. We were sure that it was not in the free state, because it was chemically impossible for uric acid to subsist in the blood-serum without entering into combination with the bases contained in it; but we did not know whether that combination was a quadrurate or a biurate, or a mixture of the two, or sometimes one and sometimes the other. On the other hand, in uratosis we knew exactly what we had to deal with; uratic deposits were composed solely of crystalline sodium biurate. It was an open question whether uric acid dissolved in the blood exercised any injurious effects at all, but we knew as a certainty that when uric acid was precipitated in the tissues as crystalline urate it did produce injurious effects. Lithæmia, again, was only an exaggeration of a normal condition; uratosis, even in the minutest degree, was pathological. He would suggest as possible that precipitation of the crystalline urates might occur, not only in the form of the coarse masses with which we were familiar in and about gouty joints, but also in the form of minute stars or detached crystals, which could only be detected with the microscope. It might turn out that the visceral neuroses, the thrombosis and embolism, and the occasional sudden death occurring in gout were not the result of any diffuse lithæmia, but were the consequences of microscopic uratosis in the substance of organs or in the blood itself. He hazarded this conjecture on the ground of some observations on blood-serum made by Sir Alfred Garrod and by himself. It would thus appear that in some cases of gout the blood might—though probably only very rarely—become so laden with uric acid as to be within striking distance of a general uratosis throughout the system.

Sir William Roberts also urged that the adoption of his proposal would enable us to discuss more freely, and with greater precision, the true relation of uratic deposits to the etiological factors concerned in their production. We spoke of "ordinary" gout and of "saturnine" gout. Would it not be a more accurate expression of the facts to speak of "gouty uratosis" and of "saturnine uratosis?" It was not easy to believe that lead-poisoning produced really and truly the same constitutional diathesis as that which existed in true gout. It seemed easier to believe that the gouty diathesis and lead-poisoning, while differing in all other respects, had one tendency or vice in common, viz., the tendency to uratosis. It was admitted that there were other factors which had considerable etiological force in the production of uratic deposits, and by adopting the nomenclature suggested we could conveniently indicate the concurrence of several factors in producing these deposits. We should also gain something in regard to a clearer apprehension of therapeutic indications. On the one hand, we could aim at minimizing the incidence of the predisposing cause—be that what it might—and, failing in that direction, we could aim directly at the uratosis itself. Uratosis was, like gravel, of and for itself a disastrous pathological accident, and it might induce consequences in the joints or in the kidneys of a permanent character, far exceeding in gravity and far outlasting the etiological factors which originally gave rise to it.

The "Harveian Lectures" for the present year are now in course of delivery; Dr. F. H. Champneys, Obstetric Physician to St. George's Hospital, being the lecturer. He commenced the course on Thursday evening last (November 20th), selecting as his subject that of "Painful Menstruation." He first discussed the changes occurring in normal menstruation. After considering the age of commencement and of cessation, the rhythm, duration, quantity, color, and qualities of the monthly flow, he briefly reviewed the causes of the non-coagulability of the fluid and the results of its microscopic examination. The changes in the uterus were then discussed, and the various views which had been propounded with regard to the monthly cycle. With respect to uterine contraction, there were arguments to be drawn from pregnancy, from fibroids, and from regurgitation ("menstrual hæmatocele"—"imperforate hymen"). The condition of the pelvic organs during the cycle could be learnt from fibroids, from the condition of the cervix and vagina, and by examining hernial ovaries. Menstruation was undoubtedly preceded by a sanguineous afflux to the pelvis, and was analogous to the onset of labor. Passing on, then, to the consideration of painful menstruation, Dr. Champneys remarked that pain must be within the "geni-

tal sphere," but the individual equation must be discounted. Discussing next the classification of dysmenorrhœa, the lecturer observed that there were really only two varieties, viz., inflammatory and spasmodic; of these, the inflammatory variety was not strictly dysmenorrhœa. The so-called "membranous" dysmenorrhœa was really a variety of the spasmodic form.

LONDON, November 29, 1890.

THE last meeting of the Medical Society was a clinical one, the evening being devoted to the exhibition of living patients. Among the cases shown were four of sporadic cretinism; the ages of the patients ranged from eighteen months to sixteen years, and in every one of the four cases the thyroid gland was absent. The cases were shown by Dr. M. Murray and Dr. W. Carr. Mr. Edmund Owen remarked that they were in reality examples of infantile myxœdema such as would theoretically result from removal of the thyroid. Mr. Owen showed two children in whom, when operating for cleft palate, he had snipped off the hamular process to relieve tension of the circumflexus palati muscle. Among other interesting cases exhibited was one of exophthalmic goitre in a woman aged twenty-four, who was shown by Dr. Sansom. When the eyes were opened, the exophthalmos was very well marked, but (owing to abnormal retraction of the upper eyelids) it disappeared when they were closed. Tremors, pigmentary patches, and most of the other signs of the disease were observable on this patient.

At the last meeting of the Medical and Chirurgical Society Mr. I. H. Morgan, surgeon to Charing Cross Hospital, read a paper on calculus of the bladder in children, in which he gave an account of 114 consecutive operations for stone performed at the Hospital for Sick Children, Great Ormond Street. In 75 cases lateral lithotomy was performed, with four deaths. Lithotrity was performed in 11 cases (3 of these were females), with 1 death. The supra-pubic operation was selected in 15 cases, with 2 deaths. Of the remainder, 9 were cases in which vesico-vaginal lithotomy was performed (no deaths), and in 4 patients a calculus was removed from the urethra. Mr. Morgan submitted the following propositions as the results of his experience: 1. That in children, small stones should be dealt with by lithoplaxy. 2. That oxalate of lime calculi, or stones of such size as not to be readily grasped by the lithotrite, should be removed by the lateral operation in the case of boys. 3. That in children the supra-pubic operation should be reserved for stones of very large size or inconvenient shape, or calculi embedded in a saccule of the bladder or impacted in the mouth of a ureter.

Dr. Marshall gave an account of twenty-seven lithotomies (26 lateral, 1 supra-pubic) which he had performed during the last twelve years; the average stay of a child in hospital after operation had been thirty-two days. His one supra-pubic case ended fatally. Mr. Morgan, he said, had made no reference to incontinence of urine as occurring after lateral lithotomy; it was observed in four or five of his own cases and continued up to puberty, at which period it ceased. He had himself been very unwilling to adopt lithoplaxy, but he now considered that most calculi in children should be treated by that method; he considered that very large and moderately hard stones should be removed by lateral lithotomy, and only very large stones (whatever their character) by the supra-pubic method. In employing lithoplaxy for children it was desirable to have several lithotrites and evacuators of different sizes, as it was sometimes advisable to complete an operation with an instrument of smaller size.

Mr. Buckston Browne said Mr. Morgan's statistics showed that vesical calculus was infrequent in children. He believed that lateral lithotomy would be superseded by the supra-pubic operation, as there was less risk of hemorrhage or of blood-poisoning, and the special risks of the lateral method were avoided; the supra-pubic method also gave the surgeon the advantage of being able to examine the bladder and stone with the finger.

Mr. Barwell said he did not agree with Mr. Morgan that the supra-pubic operation should be confined to the case of large stones. He thought that in girls the operation was preferable to the lateral one, which might leave a tendency to vesico-vaginal fistula. He believed a rectal bag was not necessary, as from experiments he had made and published he had shown that the fold of the peritoneum was not raised more than a quarter of an inch, and the base of the bladder was put into an awkward position for the operation.

Mr. J. Hutchinson, Jr., said he doubted whether the incontinence of urine, which might follow lateral lithotomy, ceased at puberty. He had lately seen a boy of eleven, who had been operated on at two and a half years of age, and in whom the incontinence was as bad as ever. In another boy, of fourteen, there were no signs of the incontinence ceasing.

Mr. Haward thought Mr. Morgan's results were favorable to the lateral operation. He had not himself come across the distressing results mentioned by Mr. Buckston Browne as following lateral lithotomy. He had seen a good deal of pain follow lithoplaxy, and did not consider distention of the bladder an entirely harmless proceeding. Though the supra-pubic operation might be easier to perform, yet, in face of the higher mortality, he would prefer to continue to practise the lateral operation.

The President (Mr. Timothy Holmes) remarked on the changes in procedure that occurred during the lifetime of a single man; he could remember the time when lateral lithotomy in children was considered the most successful operation in surgery. With reference to the accidents and sequelæ of the lateral operation, he could only recall one case of incurable rectal fistula. He was inclined to agree with Mr. Morgan's conclusions, if it was borne in mind that there was an enormous experience of lateral lithotomy in children in this country, whereas in lithoplaxy and the supra-pubic operation it was very small.

Mr. Morgan, in reply, said, that in seventeen years' surgical practice at a children's hospital, he could not recall a single case of incontinence of urine following lateral lithotomy. He thought that one reason why lithotrity had not been more extensively tried in children had been the difficulty of getting efficient instruments. That difficulty had now been overcome. He had not seen any cases of pain following the use of the lithotrite, and with the improved instruments he did not think it likely that any injury to the urethra would occur.

No speedy settlement seems probable of the question of "rank" as affecting army medical officers. The grievances of the latter are regarded by many as chiefly sentimental. The same term might be applied to many of the views on the subject, expressed by combatant officers. I believe that social pride is the chief root of the present difficulty. Many combatant officers, in short, look down upon the doctors, and some do not scruple to declare that the latter are their inferiors in birth, breeding, and education. The fact is that most medical men who enter the army do so to gain a livelihood; numbers of combatant officers do not, and the majority of them spend more than their pay. With many of the latter the army is simply regarded as a gentlemanly vocation—not as a career to be pursued with enthusiasm. The literary examination which officers have to pass is undeniably more severe than the entrance examination imposed on medical students, but of course the year's military training at Sandhurst cannot compare educationally with the four (soon to be five) years' course of medical study. I am not oblivious of the fact that many medical men are university graduates—some in arts, or science, as well as in medicine. At present, however, the conditions of army medical service are not such as to tempt many of these to compete for appointments. Army doctors, in fact, are not now the pick of the profession. The abolition of

regimental surgeoncies has done not a little to intensify the class feeling I have alluded to—a feeling which is of the same nature as that which has prevented a peerage ever being granted to a medical man.

ECTOPIC GESTATION.

To the Editor of the Medical Record.

Sir: In the discussion on ectopic gestation, before the Harlem Medical Association, reported in the last issue of the Record, I am made to say that "Electricity was not first used in 1872 for the relief of extra uterine pregnancy, but was first employed by myself for this condition in 1881." What I did in substance distinctly say, was that while the first case in which the method was attempted was as far back at 1872, yet its report carried with it no authority, and seemed to make no impression, and that it was not until 1878 that the subject excited any special attention among medical men. It was then that I treated my first case for Dr. McBurney, at the suggestion of Dr. Thomas, the publication of which by Dr. McBurney elicited no little comment, both favorable and unfavorable.

Other cases quickly followed, and the year 1878 rather than 1872 became, for all practical purposes, the real starting-point of this most beneficent therapeutic procedure.

Very truly,

A. D. Rockwell, M.D.

New York, November 22, 1890.

LETTER FROM SAN JOSÉ DE COSTA RICA.

A CENTRAL-AMERICAN REPUBLIC—SAN JOSÉ AND ITS HOSPITALS—LEPROSY IN COSTA RICA—PREVAILING DISEASES—A VARIETY OF CLIMATE—A LOW DEATH-RATE, AND A HEALTHFUL COUNTRY.

(From a Staff Correspondent of the Medical Record.)

Costa Rica, the southernmost of the Central American republics, is a little country of some twenty-one thousand square miles in area, having a population as near as can be estimated of about two hundred and twenty-five thousand. The people are for the most part white, and of Spanish descent, though on the Pacific coast there is a considerable admixture of Indian blood. There are comparatively few negroes except those who have been brought from Jamaica to work on the railroad leading from Port Limon to San José. These are all found on the Atlantic side of the country, so that the traveller, in crossing from ocean to ocean, passes through three strata of inhabitants, black, white, and red. The country is remarkably fertile, but only a limited area is under cultivation, as, owing to the small number of inhabitants, and the aversion to work which most of the people possess, there is a great scarcity of labor and it is therefore impossible at present to develop the country. While the cities of the north are crowded with people able and willing to work but who cannot find employment, this rich and healthful little country is unable to progress for the lack of inhabitants to work its soil.

The capital of the republic and its largest city is San José. It is situated almost in the centre of the country, in latitude 10° N., on a plateau at an elevation of 3,711 feet above the sea, and has a population of a little more than 25,000. It is at present very difficult of access, the only possible way to reach it from either coast being on mule-back over the worst roads that the mind of man can conceive. It is expected, however, that the railroad from Port Limon will be completed in a month or two, and then one can exchange the fatigues of mule-back riding for the perils and delays of the iron road.

Medical practice in Costa Rica is not very remunerative, the fee for an ordinary visit being fixed by law at one dollar in currency, equal to about seventy cents in gold. In San José there are some twenty-five doctors, and about the same number proportionately to the population in the other cities. In each of the provinces there is a hospital, that at San José being the largest. This hospital, called San Juan de Dios, was founded by a priest named Umaña, who left some houses and all his property for its maintenance. It is under the care of the Sisters of Charity, and contains one hundred beds. It is built in the form of a double quadrangle, one side being for men and the other for women, all the buildings being one story in height. At a little distance from this hospital is the leper asylum, where are lodged and cared for some ten or twelve lepers. There are known to be about twenty lepers in the country, those not in the asylum being isolated and under treatment in their own homes. These are all suffering from the anæsthetic form of the disease, and Dr. Calnek, who has medical charge of the asylum and has had some forty cases under his personal observation, states that he has never seen but one case of tubercular leprosy in the country, and that one was in the person of an Italian who had brought the disease with him from Europe. The subjects of the disease betray a rather peculiar mental condition. They have no hope of a cure, yet they are in no way depressed by the knowledge of their condition, but seem to be perfectly content, and welcome any addition to their company with smiles, apparently regarding the fact of his having become a leper as in the nature of a good joke. Dr. Calnek has recently been using Gurjun balsam in the treatment of the disease with thus far rather encouraging results.

The most common diseases met with in the country are gastric affections, paludism in all its forms, and syphilis, the latter being almost universal among the soldiers and lower classes of the population, especially in and about the larger towns. The malarial fevers in the central plateau are comparatively mild, the pernicious forms being more frequent in the swampy regions on the coast. Diarrhœa and dysentery are very common toward the close of the dry season, being evidently caused by bad water, for they disappear almost by magic after two or three heavy rains. Some cases of pneumonia and acute rheumatism are met with, but they are not common, and the former is usually rather subacute in its course, differing markedly from the rapidly fatal disease so prevalent in the United States. There is more or less tubercular phthisis, but not so much as one would expect to find in consequence of the poor hygienic condition of the houses of the lower classes. These are all one story in height, and the floor, which is of dirt or brick, rests directly on the ground and is always damp during the rainy season. Typhoid fever and diphtheria occur from time to time in mild epidemics of slight extent and short duration. Yellow fever is found occasionally at the two seaports, Limon and Puntarenas, but is not endemic there. Several times cases have been brought from these ports to San José, and have died there, some in hospital, some in hotels, and others in private houses, yet the attendants, physicians or nurses, have never taken the disease, and in fact no case of yellow fever has ever been known to originate in the city.

The ordinary run of surgical practice is seen in the hospitals. Spinal and joint affections are rare, and all forms of tubercular bone disease are uncommon, although necrosis, due to traumatism, is rather frequent among the lower classes, where the custom of going barefooted is universal. A good many cases of fungus foot are seen among the peons, who never wear shoes. The disease is called fungus foot and looks like it, but it seems to be only the first stage of elephantiasis, a quite common affection in this country. Of affections of the skin all the ordinary forms are common enough, but scabies is said to have been unknown until about three years ago, when it was brought into the country by German and Hungarian laborers who were imported to work in the mines. Fleas inhabit the cooler parts of the country by millions, and scratching is a very necessary form of exercise in which all indulge.

The climate of the cities on the plateau is not particularly pleasant. The thermometer indicates a fairly even temperature, 55° to 75° F., but during the rainy season it is usually very damp, and at times uncomfortably chilly. During the dry season there is often considerable wind, which blows the dust in clouds through the streets. On the coasts it is much warmer, the mean annual temperature being from 72° to 82° F., but the heat is usually tempered by a fresh breeze, and the nights are always comfortably cool. The "cold lands" are found on the mountains at an altitude of 7,000 feet and over. Here the days are hot and the nights cold. Snow falls very rarely, but it is not uncommon to find the ground covered with hoar-frost in the early morning. Contrary to the usual belief, all these regions are comparatively healthy, and a foreigner need have no fear of disease anywhere in this country, even on the coast, except, of course, in the swamp lands, if he will observe a little caution. He should wear woollen underclothing, avoid getting wet (a rubber coat is an absolute necessity), and above all refrain from drinking the vile aguardiente of the country, which is to be found everywhere, and in which the natives indulge immoderately.

The death rate of the country was 25.64 per 1,000 in 1888, but of all the deaths 60 per cent. were of children under ten years of age, and if these are subtracted the mortality is reduced to a very low figure. During the year 1888 there were 367 deaths of persons over sixty years old, and of these there were 36 nonagenarians and 10 centenarians—not a bad showing for a country that is regarded as so unhealthy by the well-informed (?) officers of life insurance companies of the United States that they demand an extra premium of one per cent. before granting permission to the insured to come here. If they knew a little more they would find it to their interest to offer a premium to all who would come to this health-giving and health-promising climate, and thereby escape the dangers of a northern winter. They are conservative, perhaps, but their conservatism is born of ignorance.

San José, November 6, 1890.

A MODIFICATION OF SAYRE'S FRACTURED-CLAVICLE DRESSING.[1]

To the Editor of the Medical Record.

Sir: In a recent case of fractured clavicle where my patient, under the Sayre dressing, suffered great irritation from the adhesive plaster, he proposed substitutes for one part after another, until finally, between us, a new dressing was evolved. While dispensing with adhesive plaster, it meets the three classic indications by means both of the arm-leverage employed by Sayre, and of the scapula-leverage over the ribs as a fulcrum, so justly insisted upon by others as of cardinal importance.

The apparatus is simply this: A bandage, made wholly or in part of strong elastic webbing, starts with a loop around the middle of the upper arm of the injured side, passes backward across a thick compress over the lower angle of the scapula of that side, and divides to pass over and under the opposite shoulder, in front of which it reunites and passes across the breast to end in a loop around the elbow of the injured side. A handkerchief-sling around the neck for the forearm and hand completes the dressing.[2]

It will be seen that the one bandage draws the elbow forward and inward, while it throws the shoulder backward and outward, and brings the whole extremity upward. The elastic tension takes up the slack which is inevitable in a muslin bandage, and holds the parts in position more securely than even adhesive plaster, the best of which will slip in hot weather on a sweaty patient. It also exerts firmer pressure upon the pad over the lower angle of the scapula than is possible by an inelastic bandage, whether adhesive or not. This pressure, however, is made at the greatest disadvantage, the resistance being perpendicular to the line of traction. It is well, therefore, for the patient to sit in a high, square-backed chair (which may be improvised with a board), and rest the scapular pad against it; and to lie upon his back with a padded board under the affected side.

It occurs to me that the scapular-leverage could be most effectively brought into play by a stiff steel truss, with a well-cushioned pad on the scapula, a larger one on the sternum, and the spring passing preferably under the sound arm so as not to interfere with other appliances.

Respectfully yours,

John Winslow, M.D.

Ithaca, N. Y., December 1, 1890.

[1] Presented before the Tompkins County Medical Society, November 26, 1890.

[2] Should a transverse fracture or a cleido-acromial luxation require direct pressure upon the clavicle, this can be made by a pad on the point indicated and a second elastic bandage passing over it and under the elbow.

THE SURGEON'S DUTY IN EXTRA-UTERINE PREGNANCY.

To the Editor of the Medical Record.

Sir: The favorable termination of extra-uterine pregnancy under modern surgical treatment is sometimes accomplished—we have on record quite a number of successful laparotomies resulting in the recovery of both mother and child. Now that modern surgery can at times save these cases and bring to the world a viable child, the question at hand is—what shall be the treatment of such cases?

A surgeon justly filled with professional pride at rescuing a mother by laparotomy from the dangers of an ectopic pregnancy writes that, "electrocution of living infants within the maternal envelopes must cease! an author writes of having killed thirteen infants by electricity! what a harrowing record"—I should like to know the probably harrowing result if the thirteen mothers had been treated on the expectant laparotomy plan?

He further states that his is the first maternally successful laparotomy after rupture of an ectopic sac recorded in New York, and the third in America, yet he advocates the expectant plan, boldly saying that "this imbuing of the physician's hands with blood of innocent infants must be frowned down and uncompromisingly condemned!" He says that a "woman must surrender her life for her infant," and that "with an ample incision and proper precautions, he sees nothing to fear." I beg to differ from him—I say a mother must not surrender her life for her intra-abdominal child if it can be avoided, and I say that there is everything to fear in spite of "an ample incision and proper precautions."

Should this writer be unfortunate enough to meet another case of ruptured sac, the chances are that his opinions will be somewhat modified. Surgery to-day should *not* believe in the expectant laparotomy treatment of ectopic pregnancy. When statistics are more favorable to mother and child then will it be ample time to promulgate the very sanguine views of one flushed with the favorable issue of his first case.

The life of a mother is worth a hundred extra uterine fœtuses, and the rule at present is to save the mother by any way that will avoid the necessity for a laparotomy. Therefore I honor him who has "electrocuted" thirteen infants, and I say the record is not "harrowing" but pleasant to think over and digest at leisure.

We have here thirteen mothers saved and thirteen abdominal, fœtuses electrocuted. Grand record! Thirteen mothers saved without suffering, instead of two or three mothers and one or two motherless infants. I have no patience with the cold-blooded treatment that will allow many mothers to die, because a few infants may be born living from the abdominal cavity. A fœtus has no right to inevitably endanger its mother's life by wandering from its normal home, and if it does go astray it should

surely die, unless it remain undiscovered until viable, when it then may have a right to live if laparotomy is judged necessary. I consider the expectant laparotomy plan cruel and unscientific, when the ectopic pregnancy is diagnosed early. To order such a patient to be "placed on low diet, body kept at rest, and no active motions permitted," until laparotomy is indicated, probably months ahead, is barbarous treatment. From the stand-point of the theologian it has been decided that Cæsarean section should always be preferred to destruction of a living child, but Cæsarean section is not always done—the mother's right to live forbids it; should we leave the question of the treatment of extra-uterine pregnancy to the theologian, he would necessarily advocate the expectant plan; he believes it morally wrong to destroy even the germ of life, no matter where it may be. But we do not; physicians believe that mature life has a right to live, if necessary, at the expense of the beginning of life. The terrible and inevitable danger to maternal and fœtal life of an ectopic pregnancy compels physicians to save the mother's life in the easiest and surest way—hence "electrobution" is, and should be, tried in every case, and the expectant plan discountenanced, unless the patient and her friends, realizing the danger, desire to wait for a possibly living child brought forth by a necessary laparotomy.

R. ELLIS, M.D.

DANBURY, CONN.

CIRCUMSTANCES ALTER MALPRACTICE CASES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The wife of the gardener employed by a prominent citizen of a New York town is in rapidly failing health. The family physician calls in a consultant from a distance. It is agreed that the case is one of ruptured perineum, lacerated cervix uteri with metritis, and hemorrhoids, resulting from pressure, the uterus being immovably adherent low down in the pelvis.

The perineum is repaired, the hemorrhoids ligated, and the external mucous membrane of the cervix punctured in several places to relieve engorgement. It is not thought prudent to repair the lacerated cervix in such a weak woman at a time when the uterus is fixed among adhesions.

Hemorrhage from the cervix or from a slipped perineal ligature disturbs the family, but not the physicians. The perineum heals by primary union. The piles gradually return because uterine pressure continues. Glycerine tampons are applied to the uterus.

The patient remains weak and does not respond to treatment as she should, and the uterine symptoms assume a character that leads the surgeon to believe that the patient has a sarcoma of the fundus uteri. (Symptoms—steadily enlarging fundus; thin, reddish, serous discharge in abundance; marked pain and tenderness in entire pelvic region; paralysis of rectum; anorexia, and steadily failing health.) Intra-uterine examination not feasible. Several months later it is discovered that the patient is pregnant, and that she was about four weeks pregnant at the time when the perineum was repaired. The former physicians are off on a summer vacation at the time when this discovery is made, and there being no one about who could correct false rumors, it is widely reported about town that the consulting surgeon had mistaken a child for a tumor, and that in trying to remove the tumor he had injured the patient and had left her a sufferer and an invalid.

Tea-parties and sociables are called in convention for a discussion of the matter. Certain colleagues who are not quite familiar with the case discuss it freely upon a basis of town reports, fearing that the latter may not be true, but hiding their fears.

The prominent citizen naturally sympathizes with his gardener's family, and believes that the surgeon is responsible for the patient's suffering. He is informed, however, that the patient's life is threatened because of pregnancy in the midst of complicated disease of the pelvic organs, and that the operation was beneficial as far as it could be in such a case. He is further informed that the operation was not performed after an erroneous diagnosis and that the later diagnosis of sarcoma was founded upon a sufficient basis. None of this information is believed by the citizen in question, and he advises his gardener to have the surgeon sued for "aggravated malpractice."

The patient does not act upon this advice, because she realizes that the sympathizing employer is misinformed. The husband of the patient tells the surgeon that several lawyers have been assiduously soliciting the case and trying to foment litigation, and that they have promised him money, stating that the surgeon would never allow the case to go into court. He also says that not members of his family but certain physicians should be consulted relative to false reports.

Several months later the gardener loses his position. He has a large family and is soon out of funds. Under the stress of circumstances he is misled and places the "malpractice case" in the hands of a reputable lawyer. His wife in the meantime has borne a living child and has retained the repaired perineum, but is very weak because of persistence of disease of the pelvic organs.

The lawyer writes to the surgeon stating that the case can be settled out of court for a certain sum of money, and that if this plan is not adopted the case will go before a jury. The surgeon in answer to the lettter simply tells the lawyer that he has been misinformed. The lawyer makes further investigation, and the matter is dropped.

ROBERT T. MORRIS, M.D.,

133 WEST THIRTY-FOURTH STREET, December 6, 1890.

Army and Navy News.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 7 to December 13, 1890.

TAYLOR, MARCUS E., Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from further duty at Boise Barracks, Idaho, and will proceed, at the expiration of his present sick leave of absence, to Vancouver Barracks, Wash., and report in person to the commanding officer of that post for duty, reporting also, by letter, to the Commanding General, Department of the Columbia. S. O. 287, par. 17, A. G. O., Washington, D. C., December 9, 1890.

GANDY, CHARLES M., Captain and Assistant Surgeon, now on leave of absence. By direction of the Secretary of War, will report in person, without delay, to Colonel Eugene A. Carr, Sixth Cavalry, at Rapid City, S. D., for duty with troops in the field, reporting also, by letter, to the Commanding General, Department of Dakota. S. O. 287, par. 14, A. G. O., Washington, D. C., December 9, 1890.

Official List of Changes in the Medical Corps of the United States Navy for the week ending December 13, 1890.

BLOODGOOD, DELAVAN, Medical Director. Ordered to Charleston, S. C., to represent the Medical Corps of the United States Navy, at the meeting of the American Public Health Association.

AMES, H. E., Passed Assistant Surgeon. Ordered as delegate to Charleston, S. C.

BERTOLETTE, D. N., Surgeon. Detached from Naval Hospital, Philadelphia, and ordered to special duty in connection with World's Columbian Exposition.

DICKSON, S. H., Passed Assistant Surgeon. Detached from the Atlanta and granted two months' leave of absence.

WENTWORTH, A. R., Passed Assistant Surgeon. Ordered to the Atlanta.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 13, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	21	11
Scarlet fever	69	10
Cerebro-spinal meningitis	6	4
Measles	269	15
Diphtheria	120	31
Small-pox	0	0
Varicella	4	0
Pertussis	0	0

Hysteria in Childhood.—Much attention has been paid of late years, especially in France and Germany, to the psychical disorders of the young, and Dr. M. Duvoisin has made an interesting and valuable contribution to the subject in this paper. It deals with twenty-four cases which have occurred in the Children's Hospital at Basle within the last seventeen years. After references and criticisms of the most recent writers on the subject, the author expresses his agreement with Liebermeister in thinking that hysteria among children is the product of a functional disorder of the brain itself, particularly of the gray matter of the cortex. The cases arrange themselves into three groups: 1. The simplest forms (two cases, where the disease was characterized by alterations in character and general complainings). 2. Hysteria without convulsive attacks, and without loss of consciousness (11 cases). The symptoms of these were local pareses and paralyses, local hyperæsthesia or anæsthesia, aphonia, præcordial pain, etc. 3. Convulsive attacks, with or without pronounced loss of consciousness, such as Charcot calls chorea major, hystero epilepsy, and various atypical, casual, tonic and clonic spasms. In the etiology two great factors are prominent, viz., hereditary predisposition, present in more than half the cases, and a phthisical family history. All the patients but two were anæmic; debility, insufficient nourishment, etc., were also important factors. Twenty of the cases were girls, the remainder boys. The ages varied from seven years to fourteen. Full details are given of the symptoms and course of the cases while in hospital, and of their subsequent history to the present time. The disease is thus shown to have recurred in 14 cases after they left hospital. Diagnosis is often difficult, and the utmost care is necessary to avoid mistakes. The prognosis is found to be decidedly unfavorable, but dependent to a large extent on a continuous and careful management. The treatment, which, to be of any service, should be begun as early as possible, is to be directed toward two points: the cure of individual symptoms, principally by means of psychical influences, and the improvement of the general health. The former object may be attained, according to the nature of the case, either by entirely ignoring the disease, or by making the patient understand, in a friendly way, the serious results that may follow; or by energetically attacking and treating the symptoms by such methods as faradization, laryngoscopy, and the use of the œsophageal bougie. In the cases of chorea major, cold affusion, smelling salts, bromides, hydrotherapy, and amyl nitrite were found useful; but for permanent cure a long course of general tonic and nutritive treatment is imperative.—*Edinburgh Medical Journal.*

The Curve of Health.—Let me tell you one thing. I think if patients and physicians were in the habit of recognizing the fact that I am going to mention, both would be gainers. The law I refer to must be familiar to all observing physicians, and to all intelligent persons who have observed their own bodily and mental conditions. This is the curve of health. It is a mistake to suppose that the normal state of health is represented by a straight horizontal line. Independently of the well-known causes which raise or depress the standard of vitality, there seems to be—I think I may venture to say there is—a rhythmic undulation in the flow of the vital force. The "dynamo" which furnishes the working powers of consciousness and action has its annual, its monthly, its diurnal waves, even its momentary ripples, in the current it furnishes. There are greater and lesser curves in the movement of every day's life—a series of ascending and of descending movements, a periodicity depending on the very nature of the force at work in the living organism. Thus we have our good seasons and our bad seasons, our good days and our bad days, life climbing and descending in long or short undulations, which I have called the curve of health. From this fact springs a great proportion of the errors of medical practice. On it are based the delusions of the various shadowy systems which impose themselves on the ignorant and half-learned public, as branches or "schools" of science. A remedy taken at the time of the ascent in the curve of health is found successful. The same remedy taken while the curve is in its downward movement proves a failure. So long as this biological law exists so long the charlatan will keep his hold on the ignorant public. So long as it exists the wisest practitioner will be liable to deceive himself about the effect of what he calls, and loves to think are, his remedies. Long-continued and sagacious observation will, to some extent, undeceive him; but were it not for the happy illusion that his useless or even deleterious drugs were doing good service many a practitioner would give up his calling for one in which he could be more certain that he was really doing good to the subjects of his professional dealings.—Oliver Wendell Holmes, in the *Atlantic Monthly.*

Baltimore.—The new building of the College of Physicians and Surgeons is nearing completion and daily lectures are already given in the amphitheatre and lower lecture rooms.

The Ten-block System.—According to Mr. Bancroft's "Ten-block System," every road is divided into blocks of ten to the mile, each block therefore being 528 feet, or 176 yards, or 8 chains, in length of road frontage. Two house-numbers are assigned to each block, one on each side of the road. Every house in a block is given the number of that block; the first one having the number only, the others being distinguished by the letters of the alphabet in addition, as 96, 96a, 96b, 96c, etc. The numbers thus arranged indicate the distance of the house from the beginning of the road. As there are two numbers to each block, and ten blocks to the mile, to get the distance in miles the number of the house is divided by 2 and again by 10; thus, 96 divided by 2 gives 48, and this divided by 10 gives 4.8 miles, as the distance of the house No. 96 from the beginning of the road. The advantage of this arrangement to the country practitioner, and more especially to the city consultant called to the aid of the former, can hardly be overestimated.

Risks to Health in East Africa.—The colonizing wave setting steadily from Europe to East Africa gives peculiar interest to Dr. Kohlstock's experience of the risks to health and the chances of longevity among his compatriots in that region. As director of the sanitary arrangements at the German headquarters, he has had excellent opportunity of forming his opinions, and the sense of responsibility with which he gives them to the world is in some measure a guarantee of the care with which he has collected his facts and drawn his conclusions. The first note he strikes is one of warning. Let no one, in any stage of phthisis, even the pre-tubercular, think of settling in East Africa, if he does not want to leave his bones in its soil. At first this danger was not appreciated in the Fatherland, and the inspection of officers setting out with colonizing

parties was carried out in somewhat perfunctory fashion. But the climatic conditions of the region soon made their effects apparent, and nine subalterns had to be sent home —precisely those in whose families pulmonary phthisis had prevailed. For a man of thoroughly sound constitution the two diseases to be dreaded are dysentery and malaria. The former, in Dr. Kohlstock's experience, responds satisfactorily to the measures usually taken in European centres in the East—the disease among the German troops running generally as favorable a course as in French or English garrisons. The latter is dangerous only when the patient is precluded from taking rest and compelled to continue at work, as, for instance, on necessarily forced marches. Even so, but three fatal cases have as yet been recorded among the German troops in East Africa as due to malaria. As a rule, under conditions of rest the malaria patient soon gets well. In stubborn cases he has to be transferred to the sanatorium —the transference hitherto being effected on shipboard, in the absence of railways. Very often the change of locality, coming after the voyage, has sufficed to restore the patient's health. A liberal allowance of fresh butcher's meat has proved the most efficacious diet in malaria; indeed, the risks arising from the disease have been greatly reduced by the excellent nursing and accommodation now enjoyed by the patient. Dr. Kohlstock holds it to be a mistaken practice to completely cut off alcohol as a prophylactic against malaria; he would rather, within the limits of temperance, that the German in East Africa should live, as far as possible, as he did at home. The necessary upturning of tne soil for purposes of tillage is, in such virgin territories as that of German Africa, the most prolific source of malaria, and, at that inevitable stage of colonizing operations, the sanatoria must be in constant requisition, and their treatment supplemented by change of locality for the convalescent. So well, however, have these measures been understood and carried out, that Dr. Kohlstock can point to a steady diminution in the statistical returns of malaria cases, the places where the disease has been most pronounced being, naturally enough, those like Mpwapwa, where the earth exhalations from the disturbance of long inert soil have been the most extensive, while no good water-supply has been obtained by boring. Next year, however, a marked reduction of the malaria returns will, it is hoped, be effected even in that locality.—*The Lancet.*

A New Local Anæsthetic.—Dr. J. B. Mattison, of Brooklyn, N. Y., writes: "The new local anæsthetic, first commended by Dobisch, of Zwittau, has served me so well that I think the MEDICAL RECORD readers may be glad to know of its value. Its make up is:

℞. Menthol ..... ʒ j.
Chloroform ..... ʒ x.
Ether ..... ʒ xv.
M. Used as spray.

Though never pushed to complete anæsthesia—it is said to quite freeze the part in one minute—I have found it effective in superficial neuralgias, especially about the head, and if, in addition to its local use, a thin kerchief be placed over the face and the spray thrown on the nose and mouth, enough general effect—yet kept within safe limit—can be gotten to add not a little to the local good."

Prize Essay on Sanitation.—Dr. J. G. Orton, ex-President of the New York State Medical Association, has offered a prize of $100 for the best short popular essay on some subject connected with "Practical Sanitation," under the following conditions: 1. Competition to be open to all. 2. Essays to be forwarded to the Secretary of the Association, Dr. E. D. Ferguson, Troy, N. Y., not later than August 1, 1891, accompanied by the name of the author under separate seal. 3. Examination and award to be made by a committee appointed by the Council of the Association. 4. The successful essay to be read at the next annual meeting of the Association, and, if approved by the Council, to be offered for publication in the secular press, and issued in tract form, or otherwise, for general circulation. 5. Authors of essays, unsuccessful as far as the prize is concerned, but found worthy of special commendation, to receive intimation as to a proper disposition to be made of them.

Condition of the Heart after Death.—The old statement that in death from respiratory failure the right ventricle was filled with blood and the left empty, while in death from heart failure the left ventricle is filled, has recently been questioned, and Dr. Strassman has added a series of experiments to the literature of the subject. Dogs were killed with prussic acid, blows, stopping the trachea, strychnine, and hemorrhage. The heart was examined immediately after death, and in cases of primary heart failure (also when death was caused by a blow), the left side of the heart contained more blood than the right. In death from acute asphyxia the reverse was found. It is important that in no case, in any form of death, was the heart found in systole on immediate examination. The right and left ventricle were in diastole, soft and filled with blood, even in cases of strychnia poisoning. In the later examinations, twenty-four hours after death, the conditions were greatly changed. When rigor mortis sets in the left ventricle empties itself and strongly contracts, even in cases where death was caused by heart failure, and at first the ventricle was soft and overfilled. These phenomena are present in the right side of the heart to a less degree, owing to the weaker musculature. In those cases where rigor mortis is present and the ventricle soft and overfilled, the author thinks there is degeneration of the heart muscle. This condition was noted in two of the animals used for experiment: One was suffering from some infectious disease and the other died from prolonged chloroform narcosis. From the experiments of this writer we are justified in receding from the position of the older authorities that the condition of the heart as found post mortem is an index of its condition at the time of death. It is doubtful if the older observations of death from respiratory failure or heart failure are of any value, as the condition of the ventricle seems to depend upon the time that has elapsed since death.—*Journal of the American Medical Association.*

That there Is too much Minor Gynecology at the present day is, says the *Boston Medical and Surgical Journal*, a very common opinion, especially among those who see much serious pelvic disease. A plea for greater conservatism was lately made by Dr. Joseph Price, before the Philadelphia County Medical Society, and was sympathetically received by the gentlemen taking part in the discussion. The overdone operations are the sewing up of the cervix, the dilatation of the cervix, the routine use of the sound, and the careless or routine use of electricity.

Everyday Hints for the General Practitioner.—A Tennessee doctor is credited with delivering two children with a pair of shoemaker's pincers, using the curved handles as obstetric forceps.

An Alabama doctor tells about a patient of his with neuralgia, who took a sharp-cornered rock and broke a hole through his cranium and poured swamp water in to cool off his brain.—*The Country Doctor.*

In a case of double compound fracture of the hips, Country Doctor writes us that, not having any apparatus handy, he had the patient placed in a plain coffin, which supported the bones well and gave good results.

In a case of severe hemorrhage from the stomach, in a patient fifteen miles from his office or any drug-store, the doctor, having no remedies at hand, did nothing. The patient immediately began to improve and ultimately made a good recovery.

A young man suffered violently from hiccough whenever he ate onions. Our correspondent asks for suggestions as to treatment.

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 38, No. 26.
Whole No. 1051.

NEW YORK, DECEMBER 27, 1890.

$5.00 Per Annum.
Single Copies, 10c.

Original Articles.

A STUDY OF THE KOCH METHOD IN BERLIN.

BY H. P. LOOMIS, M.D.,

NEW YORK.

MY trip to Berlin was undertaken with the purpose of obtaining a supply of Koch's fluid for Bellevue Hospital, and to study the methods employed and the clinical results obtained in the Berlin hospitals.

Through the courtesy of Professors Leyden, Gerhardt, and von Bergmann, I was able to study at leisure a large number of cases in their wards, to receive full instruction as to their methods, and, to some extent, obtain their impressions as to the effects of the remedy.

Upon arriving in Berlin, November 28th, I found that Professor Koch's discovery had become a matter of national importance. The medical profession, the people, the press, and the German Government had apparently forgotten, for the time, everything but Dr. Koch and the far-reaching importance of his discovery. The retiring bacteriologist was the lion of the hour.

The German Government, through its Minister of Instruction, Herr von Gossler, had publicly acknowledged Koch's claims to be verified, and a large sum of money had been appropriated for the erection of suitable buildings in which to test its efficacy upon tubercular patients. By these means Germany attested the truth and importance of the new discovery.

I shall endeavor to describe, somewhat in detail, the present status in Berlin of Professor Koch's discovery, and to give the result of my clinical studies of the cases observed. To simplify this, an arrangement under the following heads will be followed:

1. **The Fluid.**—How it is to be obtained; appearance; preparation for use; Koch's syringe.
2. **Method of Inoculation.**—Doses, etc.
3. **Results of Inoculation.**—Constitutional; local, in lupus and phthisis.
4. **Therapeutic Value** in lupus cases; in phthisis cases.
5. **Specific Action** on tubercle bacilli, sputum, night-sweats, general condition.
6. **Dangers of the Remedy.**
7. **Interesting Cases.**
8. **Conclusions.**

1. **Koch's Fluid** is received from Dr. Libbertz, after the payment of twenty-six marks, the cost of manufacture. It is put up in glass-stoppered bottles containing about 8 c.c. The bottle is packed in a solid wooden box, which is sealed by a leaden seal stamped with the letter L. Accompanying the bottle are printed directions. On each box is a private number, enabling every bottle to be traced. The fluid is of a deep coffee-brown color, clear and transparent, has a burnt bouillon odor, and remains aseptic for an indefinite period. Dr. Libbertz, up to the present time, has received over six thousand applications for the fluid. Before leaving Berlin I was informed by Under-Secretary of State Aultolf that the German Government had not as yet taken the preparation of Koch's fluid into its own hands, as had been erroneously reported by the press; but that in behalf of the Government he was at that time carrying on negotiations with Professor Koch and Dr. Libbertz, which he hoped would place its manufacture into the Government's hands. This would relieve Koch, and guarantee a general distribution of the fluid and the integrity of its manufacture. Not until this is done will practitioners in this country be able to obtain it in sufficient quantities for general use. It is to be regretted that Koch sees fit to keep the composition a secret, for though there is no doubt that there would be great risk in its manufacture by those not skilled in bacteriological work, still, his present course greatly restricts its use. Probably one important reason which induced Professor Koch to maintain this reserve is, that he recognizes the power of the remedy and the dangers attending its use. It can be foreseen that a possible result of keeping the composition secret is that it might fall by dishonorable means into the hands of charlatans and be used by them for the purpose of gain.

At the time of writing, the distribution of the fluid is solely in the hands of Dr. A. Libbertz, 28 Lueneburger Strasse, Berlin, undoubtedly under the direction of Koch himself. The difficulty of obtaining it is very great, owing to the limited supply and the extraordinary demand. As I understand it, the present intention is that Germany shall be first supplied, then the hospitals and asylums of Austria, America, England, and France, in the order named.

Those who are using the remedy most extensively in Berlin express the opinion that it is a solid medium, made liquid by unknown changes produced in it by the tubercle bacilli; that its efficacy is due to the presence of a powerful toxine or tox-albumin. Their opinion is only a matter of conjecture, for the secret of its manufacture is, as far as could be accurately ascertained, known only to Dr. Libbertz and Professor Koch's son-in law, Surgeon Pfuhl.

Preparing the Fluid.—For use the original fluid is diluted with a half per cent. solution of carbolic acid, which will preserve it aseptic as long as is necessary for continuous use.

One of the formulæ for preparation used in the Berlin hospitals is as follow:

℞. Original fluid..... ½ c.c.
Sol. carb. acid (one half per cent.)..... 50 c.c.

One cubic centimetre of the above will contain 0.01 c.c. of the original fluid. Sometimes they dilute the original fluid so as to make a ten per cent. solution, and then dilute this again to the required strength just before using.

Koch's Syringe.—The syringe which is used at the present time in all the hospitals and clinics in Berlin, with which to inject the fluid, is the one which has been known to bacteriologists for some years as Koch's syringe. The advantage claimed for it is that it can easily be rendered aseptic, for it has no piston, the action of a rubber bulb filling and emptying the chamber, which is of glass, and thus easily cleansed. This chamber is graduated to contain a c.c., which is subdivided into tenths. The syringe appears clumsy to one unaccustomed to its use, and to my mind has no advantages over an ordinary hypodermic syringe, especially when the latter is taken apart and thoroughly washed in an antiseptic solution before using. Since Koch has especially recommended his syringe as the one to use for injecting the fluid, it would be well to advise carrying out his directions to the letter.

2. Method of Inoculating.—The syringe is first filled with a ten per cent. solution of carbolic acid, then emptied and refilled with absolute alcohol; after being emptied of this, it is rendered perfectly aseptic and ready for use. Koch's fluid is drawn into the syringe to the graduation on the glass cylinder, indicating the strength of the original fluid to be used in a given case. Thus, one division on the glass cylinder would indicate that the fluid to be injected contained 0.001 c.c.; five divisions, 0.005 c.c., etc., In injecting, the needle is plunged into the skin of the back of the lumbar region and the bulb slowly compressed. There is no pain connected with the operation, nor any danger of an abscess, if antiseptic precautions have been taken.

3. Results of Inoculations. 1. *Constitutional.*—After a period varying from three to six hours subsequent to the injection, in the majority of cases, the period of reaction commences and the patients complain of severe headache, pains in the limbs or joints, chilly feelings, thirst, and dryness of the throat, sometimes accompanied by nausea and vomiting. If the case be one of pulmonary tuberculosis, cough and increased expectoration are almost constantly present, with occasional excessive dyspnœa. The temperature rapidly rises to 102° F., or even 105° F. All these symptoms gradually abate, the fever alone remaining high for from six to twelve hours, and the temperature then gradually returns to normal, which point it reaches generally within twenty-four hours after the injection. After the period of reaction has passed patients as a rule feel much improved, but sometimes the pains and malaise continue for a number of days. Irregularities in the reaction following the injections are often met with. In one case I saw it was delayed for forty eight hours; in another it was very severe and lasted for over twenty-four hours.

2. *Local.*—(1) In Lupus: About the time the reaction commences, as shown by the chilly feeling and the rise in temperature, the tissue, which is the seat of the lupoid changes, together with the surrounding healthy parts, has become intensely red, very much swollen, and feels, as an Englishman said whom I saw during the period of reaction, "as if a battle were going on in his face." A yellow, gummy, and thick, serous-looking material exudes from the lupus surfaces, which becomes, in severe cases, of a dark brown color. By the time the fever has subsided the swelling of the lupus tissue has disappeared, and the ulcerations are more or less glazed over and a crust is formed. After several weeks this comes off and leaves a healthy-looking cicatrix, still marked from the surrounding skin by its red color. After the injection, small lupus nodules, which were invisible before, appear and stand out as granulations or white masses.

(2) In Pulmonary Tuberculosis: In the majority of cases large and small mucous râles appear over the affected area during the period of reaction. In one case I saw the physical signs of well-marked consolidation rapidly developed, where before the dulness was slight and the breathing rude. Pains in the chest over the affected area are a very constant accompaniment of the fever of reaction, often becoming quite severe. Also pressure, burning, irritation, unpleasant feelings (by no means always the same), are felt at the affected spot, showing that on this spot some specific action is taking place by means of the remedy. Upon listening to a chest a few hours after an injection, one can readily believe with Koch that changes similar to those one sees in lupus are going on in the lungs.

4. The Therapeutic Value of the Remedy. 1. *In Lupus.*—Standing by a case of lupus and watching not only the constitutional but especially the local changes which follow an injection, one is astonished to see an infinitesimal quantity of an unknown fluid produce in so short a time such plainly recognized effects, which are also limited to the diseased area. I saw seventeen cases of lupus, most of them patients in Professor von Bergmann's private hospital, all of whom agreed that they began to improve rapidly after the first injection. Their appearance confirmed the statement. In every case the lupus surfaces were cicatrizing. In some, cicatrization was almost complete, in others a number of injections were necessary to destroy the lupus. There was no case where benefit had not accrued and all promised a complete cure. One case, after being under treatment for eighteen days and receiving fifteen injections, returned to England, to all appearances cured. The case was of six years' standing and had resisted all known treatment, even six operations under ether had previously failed to stop the advance of the disease. Whether these cases are permanently cured and the lupus tissue all destroyed by the first series of injections, or whether subsequent treatment will be necessary to keep the disease in check, time only can show. Some lupus cases are made very ill by the injections, others suffer but slight constitutional disturbance. The difference seems to be a personal one, rather than to depend upon the amount of lupus tissue. One peculiarity of the injections was that lupus nodules were made apparent in places where they were before unsuspected, while in cases in which the lupus was apparently healed subsequent injections brought out local changes anew. In two cases I saw, as a result of the injections, an eruption, which resembled very closely a syphilide, appear over the entire body, but principally upon the chest.

2. *In Phthisis.*—It is in the treatment of phthisis that naturally the greatest interest centres, as lupus in this country is rare compared to its frequency in Germany It is folly to expect that in the short space of a few weeks a positive answer can be given to the inquiry, "What value has this remedy in the treatment and cure of phthisis?" Months must elapse before reliable data can be collected which will give the fluid its proper place and indicate the limits of its application, and, especially, prove whether the apparent cures are permanent. The ordinary strength of the injections used in phthisis in the Berlin hospitals is 0.002, 0.005, or 0.01 c.c., the proper dose to be used in each individual case being determined by trial. They usually begin with the smallest dose, one or two millimetres, repeated as soon as the temperature of the reactive period has returned to normal. The quantity injected is increased as the amount of reaction, as shown by the temperature range, diminishes. Rarely is the strength of the injection carried beyond 0.02 c.c. in phthisis, and by some clinicians it is kept below 0.005 c.c. On the other hand, much stronger injections are used in lupus, 0.02 or 0.03 c.c.

It appeared to me that the smallest injection of the fluid which will produce reaction is not only accompanied by less danger but produces better results, especially when continued over a long period. Professor Gerhardt had twenty-four cases of pulmonary phthisis in all stages under observation for two or three weeks. Eleven showed marked improvement, not only with regard to local changes but also in general condition, such as increase in weight, etc. He has almost abandoned the use of the remedy in cases of advanced stages. On the other hand, Professor Leyden, in a private conversation, said that he had seen marked improvement in some advanced cases of phthisis and would certainly advise the use of the fluid in incipient cases. These are the opinions of two men who have had the greatest clinical experience in the use of the remedy in phthisis. I am quite sure that I have seen harm done by the use of the fluid in pulmonary tuberculosis. I remember a case which was brought into the Charité Hospital in Berlin, with consolidation of one apex, and marked constitutional disturbance. Within a week, and after four injections, physical examination showed softening and the formation of a cavity in place of the moderate consolidation. The dyspnœa was intense, respirations reaching 60 per minute. The patient was made rapidly worse by the injections, and when I left, the case was hopeless. The result in this case I attribute to too frequent and too large injections. The manner in which cases of pulmonary tuberculosis are

treated by injections of Koch's fluid in most of the public hospitals of Berlin at the present time is subject to criticism. The hospital wards are crowded with patients in all stages of the disease. The cases are not thoroughly investigated before the injections are commenced, but as soon as they are admitted receive an injection, it may be of 0.005 or 0.01 c.c. These injections are continued daily, or every other day, until the patient has what is called a "good reaction," which may also mean a temperature of 104° F. No selection is made in the stage of the disease treated or in the condition of the patient. This is certainly not following Koch's instructions. The disastrous results, which occurred only in cases of advanced phthisis, followed. Where a large number of cases are treated, as in many of the wards of the Berlin public hospitals, these few unfortunate results should not be laid at Koch's door, but the unscientific treatment should bear the blame.

5. Specific Action. 1. *On the Tubercle Bacilli in the Sputum.*—In some cases after the first injection these were noticeably diminished, and after several injections, had entirely disappeared; in other cases no diminution in their number could be noticed. In one case I saw tubercle bacilli demonstrated in the sputum and yet no reaction could be obtained even by a 0.02 c.c. injection. In another case, of pleurisy, where there had been no cough or expectoration before injections were commenced, the patient commenced to expectorate after the second injection and tubercle bacilli appeared in the sputum. Thus it is seen that the action upon the tubercle bacilli in the sputum is not constant, even though they may be diminished in number. Professor Koch, in his original article, emphasizes the diagnostic value of his remedy. I believe, that, after the fluid has been used in a large number of cases, experience will show that, within certain limitations, this is not a fact. In external tuberculosis it will no doubt be of great diagnostic value, but not so in all cases of pulmonary tuberculosis. In Berlin the sputa of all hospital cases are examined daily, to note the effect of the remedy on the number of tubercle bacilli. The bacilli are counted in a number of slides, and recorded as "few," "abundant," or "moderate" in amount. While this method of obtaining facts is open to objections, still under the circumstances it is the best, and fairly reliable. In many cases the appearance of the bacilli in the sputum, under the microscope, is changed—they appear to be thinner and broken up, but this appearance is not solely characteristic of the condition following injections, for it has also been found under other circumstances.

2. *On the Amount of Sputum.*—In the study of cases under treatment in the hospitals a careful daily record is kept of the amount of sputum of each patient. After the first injection it is found to decidedly increase, but later to diminish; especially is this apparent after the third or fourth injection. The character of the expectoration also changes, becoming lest purulent.

3. *On the Night-sweats.*—In almost all cases night sweats are stopped immediately after the first injection, and they do not return when the injections are discontinued.

4. *Improvement in the Patient's General Condition.*—The majority of patients seen in the hospitals said that they felt stronger and better, appetite had increased, and cough lessened. I place no reliance on these statements, however, for it is well known how liable phthisical patients are to see an improvement where any new remedy promising a cure is employed. Especially is this the case in Berlin, where the popular excitement over the new remedy is intense, and the patients are visited daily by large numbers of physicians. In only two cases did I see, after two weeks' treatment, any gain in weight, in one case two kilogrammes, in the other three. It must be remembered that the remedy had only been tried in the hospitals on an extensive scale for three weeks when the cases were examined, and Koch had explicitly stated that the increase in weight is only after four to six weeks.

6. Dangers of the Remedy.—Watching the effects of the smallest dose of Koch's fluid, one cannot but be deeply impressed with the dangers which must naturally attend its use, from the fact that it must contain a most powerful poison, to use which, indiscriminately, would be criminal. It should never be lost sight of that in direct proportion to the power of the remedy for doing good must be its capacity for harm. A number of deaths following the use of the remedy have been reported in Berlin One case which I know of was where phthisis was complicated by tubercular ulceration of the intestines. The remedy produced necrotic changes in one of these ulcers, which led to perforation and death. In a case of tubercular laryngitis, treated by injections, tracheotomy was required during the reactive stage to save the patient's life, the local swelling of the tissues of the throat threatened suffocation. The danger of the entrance into the blood-current of tubercular tissue containing tubercle bacilli which has been rendered necrotic by the injections must also be thought of. A possible result might be an overwhelming of the organism by an extensive eruption of miliary tubercles in the different organs, so that it could not be controlled by subsequent injections. I saw cases in which so much of the lungs were involved that the large injections used produced reactions from which the patients never seemed to rally. They confessed to being made worse by the injections.

7. Interesting Cases.—To illustrate the action of the remedy and the range of its application, I will give the history of a few unusual cases now under treatment.

CASE I. *Effusion in Pleural Cavity Produced by Injections of Fluid.*—Patient, a young man, aged twenty-six, six months before admission to the hospital had an attack of subacute pleurisy; recovered after four months, with adhesions and marked retraction of left side. On my first examination friction sounds were heard over the left side of the chest posteriorly. Patient at no time had cough or expectoration. After the first injection of 0.001 c.c., cough and expectoration both appeared, and tubercle bacilli were found in the sputum. Forty-eight hours after first injection a second was given of 0.002 c.c. After the reaction following this second injection had subsided I examined the chest and found the left pleural cavity half-filled with fluid. Professor Leyden afterward confirmed the diagnosis. The pleurisy in this case was, no doubt, tubercular in character, and the injections only made manifest a latent process. Marked reactions occurred in four other cases of pleurisy which I saw after injections had been given.

CASE II. *Effects in Tubercular Meningitis.*—A child, aged eighteen months, suffering from tubercular meningitis, was inoculated with 0.00½ c.c. At the time of inoculation it presented symptoms of the stage of coma, was insensible to all impressions, pupils unaffected by light, etc. The child lived long enough to receive two injections, and though unable to save life at this last moment of disease, still produced most favorable changes. The general condition had improved, partial consciousness returned, and the pupils were becoming sensible to light when death supervened.

CASE III. *Chronic Bronchitis and Emphysema Tuberculosis Diagnosed by the Injection.*—A woman, aged sixty-six, had been in the hospital for a long time suffering from what was diagnosed as chronic bronchitis with emphysema. Physical examination could detect no evidence of consolidation. Microscopical examination of the sputum showed no tubercle bacilli (fifteen cover-glass preparations were examined). An injection of 0.002 c.c. was followed by marked reaction. Physical examination gave evidences of well-marked consolidation below the angle of the left scapula. Tubercle bacilli appeared in the sputum.

I saw a number of what might be called "control experiments" made in the Charité Hospital. Non-tubercular cases were injected. Almost all the cases were free from reaction, even when an injection of 0.02 c.c. was given. I remember seeing two cases, however—one of scarlet

fever and the other erysipelas—which both gave reactions. We can well believe that they might have had a latent tuberculosis, hitherto unappreciated. A very few cases which were undoubtedly tubercular did not react at all, or only slightly. Two of these were cases of pulmonary tuberculosis with amyloid changes. Possibly time may show that there are certain special tubercular processes which do not react.

8. **Conclusions.**—If I were asked to express an opinion as to the efficacy of the new remedy, I should say I believe it to be as great a medical discovery as that made by Jenner; that it opens up a hitherto unknown field in the treatment of disease, which no one at the present time can limit; that it apparently cures lupus, as admitted by all observers. With regard to its curative power in pulmonary tuberculosis, I would like to quote the answers made to a series of questions, which Professor Leyden permitted me to ask him a few days before leaving Berlin. There is no one whose opinion as a clinician could be more valuable.

1. Have you noticed any *permanent* improvement in cases of early phthisis following the use of the remedy? Yes, but time can alone show how frequent such cases are.

2. Have you seen improvement in advanced cases? Yes, in some.

3. Would you use the remedy on your own child? Yes.

4. Do you favor its use in private practice? Yes.

5. Have you seen any disastrous effects following its use? Yes, in unsuitable cases and in overdoses.

6. What precautions should be taken? Employ small doses until personal effects are noted. Begin with 1 to 2 or 5 milligr.

7. Do you continue constitutional treatment while using the remedy? By all means. We have to do with a most extraordinary remedy, whose specific action is on *local* processes not constitutional.

8. Would you give the remedy to a child? Yes, in half milligrammes.

9. What is its diagnostic value? It has no *positive* diagnostic value in all cases.

DOUBLE INGUINAL HERNIA IN A HERMAPHRODITE.[1]

By CHARLES N. DIXON JONES, M.D.,

BROOKLYN, N. Y.

Gentlemen: I have in this jar two specimens of hernial tumors which were removed, by operation, from the inguinal canal of a hermaphrodite. The patient, Emma M——, twenty-one years of age, has been reared to the present time as belonging to the female sex, but investigation proves that the patient is a true representative of transverse hermaphroditism, although of an unusual type.

This patient consulted me on December 2, 1888, for a double inguinal hernia and amenorrhœa. The hernia was on both sides and of the ordinary type of inguinal hernia. At times it was very painful, so much so that she could not attend to her work. The patient had never menstruated nor had any symptoms of menstruation, nor was there any history of a vicarious menstruation. The patient's mother had eight daughters, two of whom were affected in a similar manner. Dr. S. G. Webber, of Jamaica Plains, Mass., wrote me that one of them had never had her catamenia and had congenital absence of the uterus.

This patient was large in stature, and has the appear- of a handsome, well-formed woman; thorax, pelvis, and body generally were of the feminine type; mammæ and nipples were fairly well developed; the voice is feminine, though the larynx is more protuberant than is usually

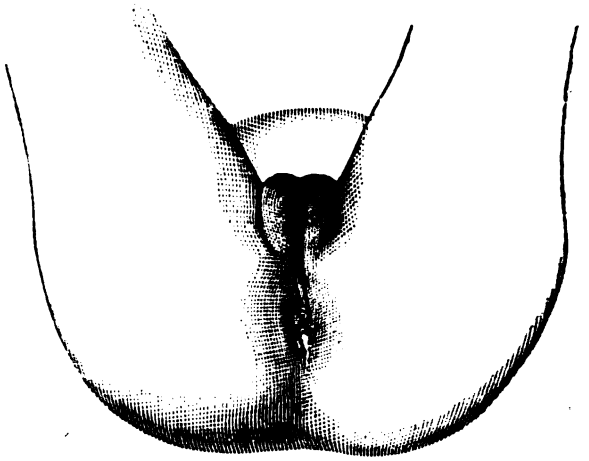

Fig. 1.

found in the female. The external sexual organs were those of a female, and in general well formed, the clitoris and nymphæ were perhaps smaller than natural, and the

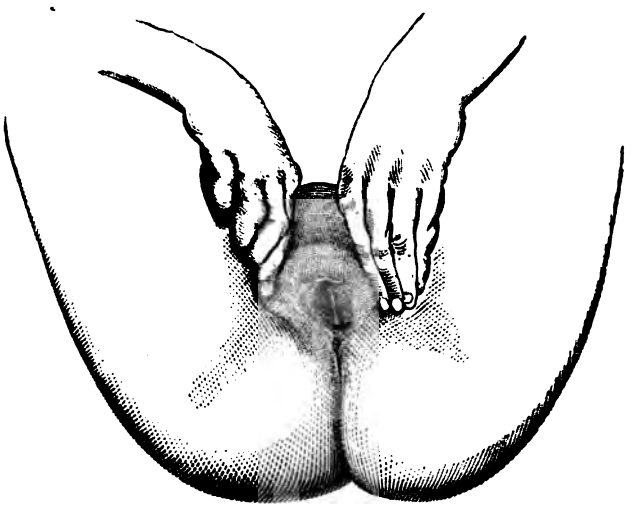

Fig. 2.

orificium was rather contracted, and partly shut by a hymen. The fossa navicularis was distinct and the vagina normally situated, but extremely short and nar-

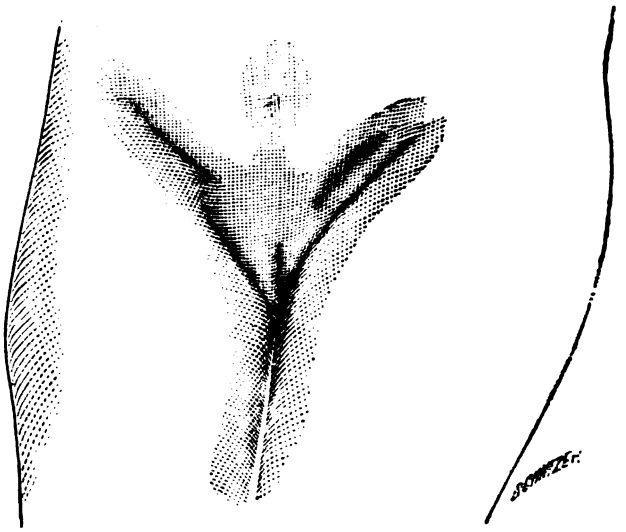

Fig. 3.

row, not more than two inches in length, and at this upper extremity terminating in a blind cul-de-sac, without any trace of the uterus or of the tubes or ovaries.

[1] Paper presented before the Medical Society of the State of New York, February, 1889; subsequently read before the Brooklyn Medical Microscopical Society, with demonstrations of microscopical structure and presentation of micro-photographs made by Dr. C. N. Hoagland.

Even under ether and by combined vaginal and abdominal examination there could not be detected the least tumor, or swelling, or anything resembling the uterus, or ovary, or the Fallopian tubes; but in the region of each external abdominal ring there was a hard body which I then judged to be a prolapsed ovary. These bodies were extremely sensitive on pressure, and they were irreducible. The pain in these enlargements was becoming more distressing and more intolerant; the patient was very desirous of having them removed or being relieved of the herniæ, and evidently it was best for her welfare and comfort, so an operation was advised. Preparations were made as for a laparotomy. Upon cutting down on the hernial bodies I came upon a firm fibrous envelope enclosing the organs in a sac; upon opening this I could find no communication with the peritoneal cavity, except by some firm, fibrous bands which attached the organs to the internal surface of the abdominal wall. Before tying and severing the pedicles, and in order to be certain that no abdominal organ was included in the neck of the sac, I made a medium abdominal section and examined the site of the tumor from within. I could only feel a fibrous cord running downward and backward from the internal aspect of the internal abdominal ring and becoming lost in the floor of the pelvis. From this internal examination there was still found no trace of the uterus or other sexual organs.

I then closed the abdominal wound, tied the pedicles with a strong silk ligature, removed the tumors from each side, and then closed and dressed the wound antiseptically. The patient made an easy recovery and says that she has been in better health, and more comfortable ever since.

I present herewith the organs removed, together with the photographs of the same and of the patient, before and after the operation.

Plate 1 represents the external genitals.

Plate 2 represents the parts more minutely. The labia are separated so as to show the clitoris, the opening of the urethra, and the entrance to the vagina.

Plate 3 represents the scars left after the operation. Female type of the pelvis.

Plate 4 represents the right testicle removed.

Plate 5 represents the left testicle removed.

As is well known, the ovary sometimes passes through the inguinal canal and forms a hernia; these cases are usually congenital. The only similar case to the one above described that I have been able to find recorded is reported by Koltz.

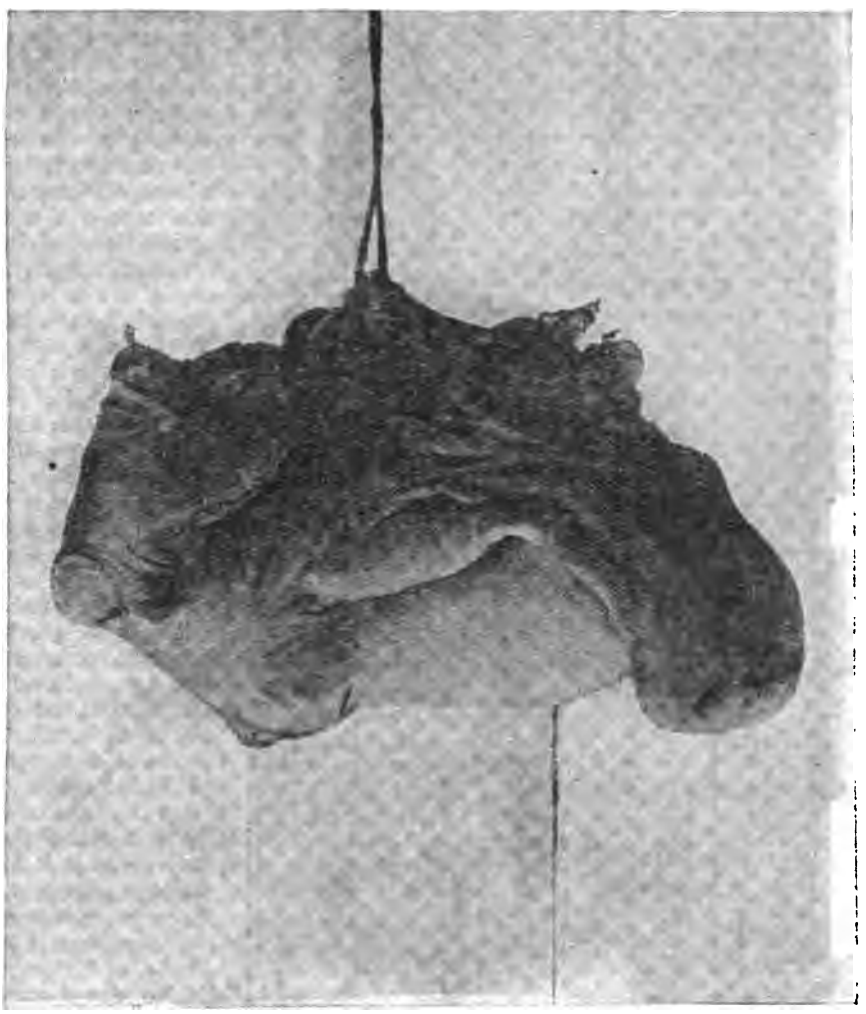

Fig. 4.

"An individual, aged twenty-four, with rudimentary penis, had two lateral elevations on the genitalia; the right one began to grow at the age of sixteen, and attained twice the size of man's fist.

"Violent pains in the tumors were felt every month and after the eighteenth year were accompanied with a discharge of blood from a fistulous opening. Billroth extirpated on the left side a normal testicle, and on the right side a cystoid tumor, with gland-like structures, which were lined with epithelium and had colloid contents, but did not form well-developed follicles. A fallopian tube, round ligament, and right-sided uterus and unicornis were present."

The specimens which were removed from Emma M—— have been examined by Dr. C. Heitzman and pronounced to be testicles.

I am inclined to believe that many of the cases which have been reported to be ovariocele on closer investigation might have been found to be undescended testicles in hermaphrodites.

Leopold has described a case where the individual, at the age of twenty-five, was married as a female. She had never menstruated. There existed only a cul-de-sac instead of a vagina, the clitoris was small, and in general the appearance of the external genitals simulated the female. In the labia were two round, almond-shaped bodies. There is no post-mortem history.

Cases in which the ovary has passed through a hernial

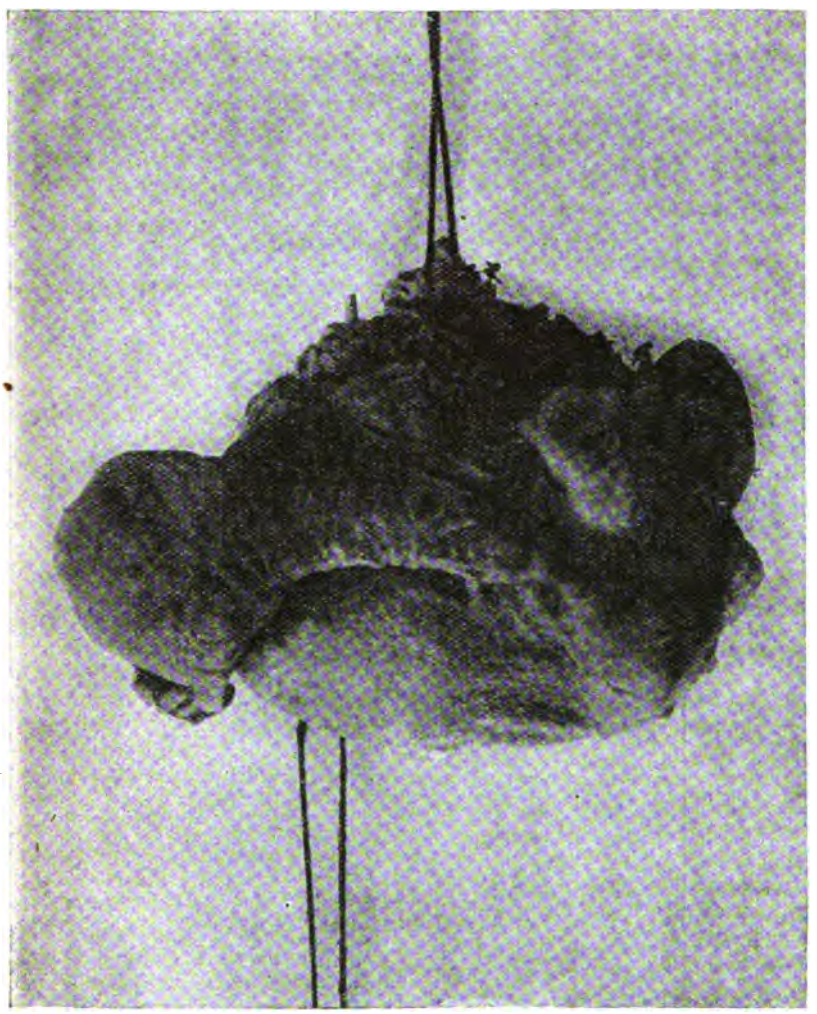

FIG. 5.

opening are not infrequent. Absence of the uterus has been frequently noticed. Such cases are described by Maschka, Leopold, Werth, Koltz. It is not at all unlikely that if an operation had been performed and microscopical examination made, some of these organs would have proved to be testicles, or cases of cryptorchidismus in hermaphrodites.

The Manufacture of Spermine from the testicle is a complicated process. Schering's chemical works have taken in hand its synthetical production, according to a process described by Professor Ladenberg. The basis (which is probably identical with spermine) is C_2H_4NH —ethyleneimine. It is a crystalline substance, small needle-shaped crystals, is easily soluble in water, and tastes slightly of ammonia. It will dissolve a large amount of urea.

REMARKS ON THE INTRAPULMONARY AND SUBCUTANEOUS TREATMENT OF TUBERCULOSIS.[1]

BY JOHN BLAKE WHITE, M.D.,

PHYSICIAN TO CHARITY HOSPITAL, NEW YORK, ETC.

IN the MEDICAL RECORD of November, 1886, I had the pleasure to report the progress of a patient, suffering from pulmonary tuberculosis, under intrapulmonary treatment, as first practised by Dr. Pepper, of Philadelphia, and subsequently by Dr. Beverley Robinson, of New York, and myself.

The method of treatment was the same; but I used a formula which I found to be absolutely free from any irritating effects when injected into the lung cavity, and in every instance marked benefit was observed in all the distressing symptoms of this dread malady. The cough and expectoration were always lessened, the temperature invariably lowered, and night-sweats checked for several successive nights, and a marked general improvement was the rule for several days after each intrapulmonary injection. The case which is referred to above is a living evidence to-day of the value of this method of treatment. While this patient was receiving the intrapulmonary injections she was under the observation of Dr. Ira B. Read, her physician, and was seen by Dr. J. Lee Morrill, Dr. W. T. Alexander, and my father, Dr. O. A. White. The sputum was not examined at the time for bacilli, as the case appeared so characteristically one of advanced phthisis that we all thought it quite unnecessary. However, a few months after the patient was discharged, with a healed cavity and restored health, she was exposed to inclement weather and contracted a severe cold, which established a consecutive catarrhal condition at the previous seat of disease. I had the sputum examined at this juncture by my friend Dr. James R. MacGregor, who has paid considerable attention to bacteriological research, and he reported the presence of tubercle bacilli in the sputa furnished him.

At this time the patient received two intrapulmonary injections at the interval of a week, and these arrested the pulmonary affection promptly, removing all cough, expectoration, etc.

Subsequently I was consulted by Dr. P——, of Malone, N. Y., who desired me to carry out my intrapulmonary treatment in his own case. He was found to have a large cavity at the apex of his right lung, and to be troubled with a large amount of expectoration, incessant cough, night-sweats, loss of appetite, and much general debility. He being over sixty-two years of age, I hesitated to undertake the treatment, and yielded only to his persistent request. I directed him to a neighboring hotel, where I injected the cavity with the pulmonary fluid which I had been in the habit of using, and the result was eminently satisfactory. My friend Dr. J. Lee Morrill very kindly offered me his aid in the operation, having previously verified the diagnosis. The operation was followed by no unpleasant reaction, and the next day the patient visited some friends out of the city.

The second day after the operation he walked to my office from the Long Island Ferry, East Thirty-fourth Street, a distance of two miles, declaring that he felt no

[1] Read before the Northwestern Medical and Surgical Society, December 17, 1890.

ill effects whatever from the exertion, and had not experienced any since the operation; but, on the contrary, felt stronger, and thought his respiration improved. He assured me that his cough and expectoration were lessened, and he had no night-sweats since the operation.

Dr. P—— went to Southern California, where he received the same treatment, carried out by Dr. Northrop; but when he wrote me that each operation was followed by hæmoptysis, I advised a discontinuance of the treatment. He felt, however, that the injections had benefited him, and three years after our first interview I was surprised one morning to see the doctor walk into my office, so much improved in his physical condition that at first I failed to recognize him. He had gained in flesh, appeared strong for a man of his years, and was very enthusiastic over his experience with intrapulmonary injections. Upon examining the right lung I found the cavity had thoroughly cicatrized and contracted, so that no further treatment was deemed necessary. Dr. P—— was, however, quite ready and anxious to have the intrapulmonary injections continued if thought advisable.

In view of the results obtained in these cases, together with other favorable experiences with the intrapulmonary injections, I have been, these past years, induced to continue them in all cases demanding this treatment. I have been so gratified with the intrapulmonary use of my composition that I have latterly adopted the subcutaneous insertion of the same fluid, graduated in quantity, to suit each patient's age and susceptibility to the hypodermic medication. Improvement invariably follows these injections; the cough, expectoration, and night-sweats are controlled, and the patient describes a pleasant glow pervading the system, while a sense of greater strength continues for a day or more.

I usually begin with ten minims, gradually increasing the dose to sixty every day.

The formula was published in the MEDICAL RECORD, May 22, 1886; but it is now prepared with some slight modification, as care is necessary to avoid a precipitation of the alkaloids—the only difference being in the substitution of distilled water for diluted alcohol. The fluid is a clear, reddish-brown liquid, of a not unpleasant odor, and is entirely non-irritating either under the skin or when injected into pulmonary cavities. For this method of treatment I have in some instances substituted the subcutaneous injection of the chloride of gold and sodium and iodide of manganese, guarded with a small amount of morphia or codeia and atropia—these last being added for their well-known effect in allaying irritation and controlling the night sweats. The cyanide or the iodide of gold is especially indicated in cases with laryngeal complication, relieving spasm of the larynx and allaying irritable cough largely occasioned by the throat ulceration. The results from the hypodermic use of these remedial agents have been such as to warrant further careful tests of their merit. It is not my intention or desire to excite undue expectations from these remedies, but simply to detail the results of experience, and to request my colleagues to look into their claims for recognition as potent agents in the debilitating conditions associated with phthisis, scrofula, syphilis, etc.

The same effect is not to be looked for when the remedies are introduced through the stomach, for obvious reasons. The tubercular process especially attacks the glandular system, the absorbents forming no exception to the rule, so that the reception and assimilation of any remedy is not only slow, often impossible, but also liable to chemical change before the absorbents could act upon them even if they were capable of doing so. When administered hypodermically the remedies are immediately taken up by the capillaries and transmitted, with almost lightning rapidity, to every part of the system.

It would be well for us to give a moment's consideration to these remedial agents, and estimate what value they possess as such.

Christien, of Montpellier, was the first who brought to the notice of the profession the different preparations of gold, and they have since been used with advantage in secondary syphilis and syphilitic ulcerations, "especially those of a leprous character."

The chloride of gold is the most virulent of the preparations, even more active, according to Christien, than corrosive sublimate. When taken in overdoses there results severe pain, inflammation, and even ulceration of the stomach and bowels, acting in every way as a corrosive poison. In moderate doses the general effects of these preparations is to occasion increased fulness and excitation of the pulse, an increase in the quantity of the urine and perspiration, without in any degree interfering with the appetite or regular action of the bowels. When the dose is pushed too far a general irritation follows, *inflammation seizes on some organ, in accordance with individual predisposition, and fever is developed.* It will be noted that the remedy has a special direction to *the existing morbid process;* the effects being more marked in the external tubercular lesions, and is a most important characteristic of the gold preparations.

M. Chavannes has used the remedy to advantage as a caustic in lupus and in syphilitic tubercles and ulcers.

M. Pourché has observed very satisfactory results follow the use of cyanide of gold in syphilis and scrofula, and considered it less exciting than the double chloride when used similarly.

As these preparations are liable to undergo decomposition when kept; they should be excluded from the light and prepared only for immediate use.

The trials which have been made with the combinations of Manganese place this metal on a par with iron as a tonic and anti-anæmic. It is present always, in small proportion, in human blood, as well as in the other fluids and solids of the body. In the anæmia associated with phthisis, therefore, it is especially a useful addition to its therapeusis, and is far more readily assimilated when subcutaneously administered than when taken into the stomach. A special usefulness is claimed for the iodide of Manganese by M. Hannon in the anæmia associated with scrofula, phthisis, cancer, and the syphilitic cachexy. M. Hannon tried the carbonate of manganese on himself, and, after its use for fifteen days, found his appetite improved, his pulse increased in force, and experienced a feeling of "sanguineous plethora." He subsequently gave the remedy in several cases of anæmia, and found that it excited the functions to a more healthy action; increasing the strength and improving the quality of the blood.

A knowledge of these experiences led me to believe that these agents possessed, in combination, valuable therapeutic effects when used subcutaneously, and I therefore began a few experiments, which were followed by such marked benefit in phthisis that I feel justified in offering my experience to the profession, with an assurance that in many instances they will not disappoint those who carefully and skilfully use them in the manner suggested.

In incipient phthisis the metals will act more actively than in the later stages of the disease; but even in these cases benefit will result, and, if combined with the intrapulmonary injections, some cases may be found very decidedly improved by the two methods of treatment.

In phthisis laryngea the spasms dependent upon the local lesion will be much relieved by the subcutaneous injections of the gold preparations with the iodide of manganese.

I have found physical improvement follow the continued use of these agents as described.

The patients now under treatment have shown a decided tendency to improve. One case of laryngeal phthisis has manifested great amelioration of the symptoms due to the laryngeal lesion, in addition to a general favorable reaction, since the injections were begun. The appetite I have found to be increased, the fever is lessened though at first increased, and the expectoration also modified in quantity and quality, the cough and night-sweats are markedly controlled, while other evidences of benefit have

been observed. The quality of the expectoration is changed from a muco-purulent to a more frothy mucous character.

I have not seen, in all my experience with such cases, a method or a course of treatment with any remedy yield such promising results as I have realized with these remedies administered under the skin.

Great caution is to be exercised in the use of these preparations, as they are powerful poisons and require more than ordinary judgment in estimating each individual susceptibility.

At some future day I hope to detail more in full a report of my clinical experiences.

1013 Madison Avenue.

Progress of Medical Science.

Bradycardia, or Slow Action of the Heart.—The cases hitherto recorded of "slow heart" and the inferences derived from them are not altogether satisfactory, as many errors have arisen owing to the pulse having been only taken at the wrist and not compared with the apex beat. Dr. Riegel has made observations on 1,047 patients whose hearts beat less than sixty times per minute. Such a condition he terms bradycardia. He divides his cases into two large groups: 1. Physiological bradycardia. By this Riegel understands a slowing of the heart's action, caused by, or in connection with, some physiological condition. Under this head would come the "slow heart" occurring in puerperal states, also that which is found in cases of starvation, and finally, the bradycardia which is sometimes observed as a constitutional peculiarity. Riegel here remarks that many of the cases of this kind which have been reported are greatly open to question, as some of them were obviously due to some pathological cause. 2. Pathological bradycardia. There are several varieties under this head: *a*, The slowing of the pulse noticed in convalescence from a febrile affection. More than a quarter of the whole number of cases were of this kind. They were most commonly observed after recovery from croupous pneumonia; then, in order of frequency, after typhoid, erysipelas, and acute rheumatism. Traube attributed this phenomenon to a state of general exhaustion. *b*, Bradycardia in diseases of the digestive tract. In this division were 379 cases. It was most frequently noticed in affections of the stomach (ulcer, carcinoma, and dilatation). Such a result might have been inferred from physiological experiments; for in animals an increase of arterial tension with diminution in frequency of the pulse takes place when the stomach is submitted to electric, mechanical, or thermic excitation, and is caused by a reflex action of the vagus. The slow pulse of icterus probably depends on the paralyzing action on the cardiac ganglia by the bile acids in the blood. When occurring in cases of peritonitis, the bradycardia is probably of the nature of those cases described in the first division. 3. Bradycardia in diseases of the respiratory organs. In this class were 87 cases. Some of them were during convalescence from pleurisy; others after hæmoptysis, or after the withdrawal of a large pleural exudation. 4. Bradycardia in cases of disorders of the circulatory organs (47 cases). This phenomenon appeared in fatty degeneration of the heart and when the coronary arteries were ossified, but it was never found as a constant symptom of any one disease of the heart; it more often occurred when the heart was flabby and insufficiently nourished. 5. Slow heart in diseases of the urinary organs (64 cases). Acute nephritis was the most common disease in which it was found; the slowing of the pulse was always accompanied by increase of arterial tension, and was often the earliest sign of the retention in the blood of the urinary constituents, thus denoting the commencement of uræmia. 6. Bradycardia as a result of poisoning. Riegel noticed it in 3 cases of lead poisoning and in 5 cases of chronic alcoholism. 7. A pulse under 60 per minute was noticed in 27 cases of anæmia and chlorosis, in one case of extreme anæmia after lead-poisoning, and in 3 cases of diabetes. 8. Bradycardia in diseases of the nervous system (93 cases). In many of these cases it was thought to be due to reflex vagus action. In some instances of disease of the central nervous system it was probably caused by direct vagus action; in others Riegel ascribed the symptom to disturbances of the circulation and blood-pressure in the brain; and in the remaining number of cases no definite action could be distinguished. 9. Bradycardia in other diseases. Under this head were 17 cases of extreme fatigue and exhaustion, 1 case of sunstroke, 12 cases of skin diseases, and 17 of painful affections of the muscles.—*The Lancet.*

Distribution of Tubercle Bacilli Outside the Body.—The following are the most important results of Cornet's investigations on this subject: 1. In the dust of rooms of private patients suffering from consumption who were careful always to expectorate into a spitting-cup, and never into a handkerchief or on the floor, tubercle bacilli were *never* found; if, on the contrary, they expectorated into a handkerchief or on the floor, bacilli were *always* present in the dust. 2. The dust of most consumptive wards in hospitals contained tubercle bacilli. 3. The air of two policlinics, of a theatre in a pathological institute, of the dormitory in an orphan-house, of several streets, and of several public buildings, was found free from bacilli. Tubercle bacilli are incapable of multiplying and flourishing except in the tissues of men and other animals. Many cases of tuberculous disease are due to the ingestion of bacilli in meat, and especially in milk; but in most cases of consumption the virus is derived from other consumptive patients. The breath of such patients does not contain bacilli—the sputum is the means of infection. From moist sputum bacilli can never get into the air; it is when the sputum becomes dry and is converted into a fine powder that it is dangerous. It can easily be understood that as long as the sputum is expectorated into a spitting-cup the danger of infection is slight; but if the sputum is deposited on the floor or in handkerchiefs, towels, etc., it soon dries, and movement and friction—*e.g.*, shaking and using the handkerchief—readily convert it into powder which can float about in the air. When sputum is expectorated in the open air, as in streets, the danger of infection is slight. Rain and damp weather keep the sputum moist and harmless; and if it does dry and become pulverized the winds dilute it to an infinite degree and blow it away. The practical rules which Dr. Cornet lays down are: Consumptives should never expectorate into a handkerchief or other cloth, or on the floor, but should always use a suitable spitting cup, in which some fluid may be kept in order further to prevent the chance of drying. If expectoration into a handkerchief is ever unavoidable, the handkerchief should be at once boiled and washed. Consumptives should not be kissed; if this must be, the forehead or cheek should be chosen rather than the mouth. Spoons, glasses, etc., used by consumptives should be carefully cleaned.—*The Dublin Journal of Medical Science.*

Chrysarobin in Hæmorrhoids.—A Paris correspondent of the *Pharmaceutical Record*, April 7, 1890, states that extraordinary success has been reported with chrysarobin in the treatment of hæmorrhoids. For the external variety he prescribes the following ointment, to be applied several times daily after a washing in a 1 to 50 solution of phenic acid, or a 1 to 100 solution of creolin: Chrysarobin, 80 ctgr.; iodoform, 30 ctgr.; ext. belladonna, 60 ctgr.; vaselin, 25 gm.; for external use. For internal use, the formula is as follows: Chrysarobin, 8 ctgr.; iodoform, 2 ctgr.; ext. belladonna, 1 ctgr.; cacao butter, 2 gm.; make one suppository. In three or four days pain and hemorrhage are said to disappear, and it rarely happens that the most obstinate cases are not cured within two or three months.—*College and Clinical Record.*

MEDICAL RECORD:

A Weekly Journal of Medicine and Surgery.

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PUBLISHERS

WM. WOOD & Co., Nos. 56 and 58 Lafayette Place.

New York, December 27, 1890.

LUPUS AND THE LYMPH.

Now that a considerable number of lupus cases are under treatment in the various institutions of this city, it has been noted that the results of the lymph inoculations are quite marked, and apparently much benefit has resulted to those experimented upon.

The question of the nature of lupus is of growing interest and importance. It is a very noticeable fact that, although in almost all the recent writings and discussions of the subject lupus is treated of as a disease identical with tuberculosis of internal organs, little or nothing has been said against this view. As we have already mentioned in these columns, the theory is one which has not received universal acceptance. In a paper read at a meeting of the American Dermatological Association, some years ago, Dr. Hyde, of Chicago, took decided grounds against the idea that lupus is a disease chiefly associated with tuberculosis, but that it is a local infection having no connection with any constitutional diathesis. For this belief he advanced the following grounds: 1. The unimpeachable character of the family history in by far the larger number of cases of lupus vulgaris. 2. The fact that the disease is in its inception a disease of the period of childhood, when, for the most part, the habits of the child are favorable to infection. 3. The several sites of predilection are those most favorable to such infection (local). 4. The failure of the disease to spread by inheritance. 5. The remarkable tendency of lupus vulgaris to cutaneous limitation.

On the other hand, at the International Congress held at Copenhagen, Professor Doutrelepont maintained that lupus is really a tuberculosis of the skin. He was opposed at this time by Kaposi, who, during a twenty years' experience, had seen one thousand two hundred cases of lupus, and had never noticed any connection between it and tuberculosis. Many of those at the present day who believe that lupus and tuberculosis are not identical diseases, still admit that there must exist an intimate relationship. If the bacilli found in the two processes are not the same, they must be at least first-cousins, and the experimental treatment now in progress, if it does not prove positively and permanently curative, may at least serve to clear up these disputed points.

Reported cures of lupus have already been made, but keeping in mind the well-known tendency of the disease to recur, we should not be more hasty in pronouncing a given case cured under Kochine, as the lymph is now facetiously called, than after treatment by the older methods. Time, and time alone, will prove the cure, and this is quite as true of lupus as of phthisis.

THE LIMITATIONS OF THE CURATIVE LYMPH.

IT is now over three months since Professor Koch began the experiments with his lymph upon man. This is almost a sufficient time to determine whether consumption in its earliest stages can be cured. Professor Leyden has treated 127 cases, Dr. Guttmann 75 cases, and Professor Gerhardt 79 cases. All these are, in addition to the cases first treated, directly under Koch's supervision. Among these 281 cases we hear of four deaths, while Dr. Guttmann announces four cures. Most of the remaining cases are simply "doing well."

If any experienced physician were to treat 281 cases of phthisis in the very initial stage by methods already known there is very little doubt that much better results could be obtained, even within two or three months, than a simple one per cent. of cures. So far, therefore, it must be conceded that Koch's lymph has shown no special remedial power against pulmonary tuberculosis. There is a belief that it is more effective against laryngeal tuberculosis, but we hear as yet of no announced cures.

Its specific effect upon lupus is, so far, quite interesting. Temporary "cures" have certainly been produced by it.

The severest criticisms upon the action of the lymph come, naturally perhaps, from the Paris physicians. Pasteur is quoted as saying:

"Up to this moment there has not been a single authenticated cure, not even of lupus. Dr. Bergmann himself has seen a patient suffering from lupus return to his hospital fifteen days after having been discharged as cured, a severe relapse having occurred even within that brief interval. Moreover, there is no real certainty as to the consequences of the treatment. The medicament is of unheard of virulence, and the reactions which it brings on are terrible. No venom from a snake, if administered in such small doses (two tenths of a milligramme), could cause such results. We have therefore a toxic of such indomitable energy that it may introduce into the organism disorders the consequences of which no one can surmise, and have yet to be studied. You may have seen a report in the medical papers of yesterday that albuminuria and hæmaturia have been found in a patient who had been treated for tuberculosis to very small doses of this lymph. In fact, it is the kidneys that are particularly affected by it."

Pasteur, referring to the early publicity given to Koch's method of cure, says in conclusion:

"Whatever happens, you may be perfectly certain that the École Bactériologique Française will not imitate their example. So long as the results of its investigations are unascertained we shall be silent. So soon as a single point shall have been perfectly established we will report the fact in detail to the Académie de Médecine."

HYPNOTISM AND CRIME.

THE extraordinary criminal case which has recently been before the Paris courts has aroused much discussion as to whether a person can be hypnotized and made to commit a crime. The accused persons were the man Eyraud, and his mistress, Bompard. The latter enticed a wealthy man into her rooms where her lover was concealed. The two murdered the man, put his body in a sack, the sack in a trunk, took the murdered man's money, and left the country. The man confessed the crime, the woman, it is said, under hypnotic influence, also confessed, but pleaded subsequently that she was under her lover's hypnotic influence, and could not help herself. Her counsel put in this plea on her behalf before the court, and secured the services of Professor Liegeois, of Nancy, and of her family physician. The latter testified that he had frequently hypnotized her and compelled her to do various acts at his suggestion.

Professor Liegeois made a long, set speech in favor of the hypnotic theory. Professor Brouardel and Dr. Mottet denied the possibility of her or anyone else being forced to do a complicated and criminal act under hypnotic suggestion.

The controversy developed apparently into one of "schools," rather than of facts. It was the Nancy school pitted against the Salpêtrière and Charcot school.

The jury decided that the woman was responsible, but found extenuating circumstances, and she was sentenced to twenty years of hard labor. Paris and Nancy came off, therefore, about evenly in the matter of hypnotism.

The question of hypnotism and crime has several times been brought up in this country by Dr. William A. Hammond, the late Dr. Beard, and others. It is possible that simple acts, such as forging or signing the name to documents, or doing some violence, may, in rare cases, be brought about by hypnotic suggestion. The combination of circumstances, however, which would permit of this is very rare indeed.

No one could be forced by hypnotic suggestion to do complicated acts, involving judgment, discretion, and adaptation of the actions to new or unexpected circumstances.

THE RATIONAL TREATMENT OF PNEUMONIA.

THE medical profession hears with languid interest of reports of new and curative drugs in pneumonia. When, however, an ingenious, logical, and sensible application of known physiological data is made to the therapeutics of this disease a more scrutinizing attention is called for. An article by Dr. Andrew H. Smith, on "Acute Obstructive Diseases of the Lungs" (*American Journal of the Medical Sciences*), has all the characters just mentioned. Dr. Smith shows that in an obstructive lung disease like pneumonia, it is the right heart that bears the chief burden. The physician ought, therefore, to watch it with even more care than the radial pulse. The pulmonary aortic pulse cannot be felt, but its strength and that of the right heart can be gauged by the intensity of the pulmonary aortic valvular sound.

In an obstructive pneumonia the blood is dammed back into the veins, and there is venous congestion, while the arteries are not full enough.

The therapeutist should aim, therefore, to distribute the blood more evenly. This may be done by taking away blood from the veins by venesection. But a safer method is to use such drugs as nitro-glycerine and the other nitrites. Alcohol is also thought to be of great value, not only as a general stimulant and food, but as an arterial depressor. Dr. Smith asserts that too much food, especially liquid food, should not be given to pneumonia patients, as this embarrasses digestion and fills up the circulatory system with fluid.

Oxygen gas and artificial respiration are also recommended, to be used even before the patient's condition is critical.

Digitalis should not be used in most cases of pneumonia. This is a dictum supported by good authority and large experience. Yet digitalis continues to be given.

Dr. Smith's contribution to the therapeutics of pneumonia is the best that has been made for years. Yet he makes no allusion to antipyretics or baths. His conclusions are given as follows:

1. In acute pulmonary obstruction, the danger being from exhaustion of the right heart, the pulse at the wrist does not give reliable indications as to the gravity of the condition.

2. This can be appreciated more correctly by studying the pulmonary circulation by the aid of the pulmonary valve-sound.

3. Marked accentuation of the pulmonary valve-sound indicates a fairly vigorous right heart laboring to overcome resistance in the pulmonary circulation.

4. Decrease of a previously existing accentuation, with only moderate dyspnœa, indicates decrease of pulmonary obstruction.

5. Decrease of accentuation, with increase of respiratory distress, indicates that the right heart is becoming exhausted.

6. Relief is to be sought: *a*, by regulating the diet in conformity with the diminished power of digestion and sanguification; *b*, by the use of medicines which dilate the arteries and promote transferrence of blood to them from the veins; *c*, by the inhalation of oxygen gas; *d*, by artificial respiration; *e*, by placing ligatures about the extremities in order to retain the blood in them and prevent its return to the heart.

Sulphonal in Diabetes.—Dr. Casarelli, of Pisa, mentions the favorable action of sulphonal in diabetes (*Lancet*). This drug diminishes the quantity of sugar in the urine, also reducing the polyuria and the thirst. These results were obtained by doses of from 5 to 30 grains per diem, bnt not to so marked a degree as with doses of 45 grains continued for several days. The 30-grain doses could be administered for some time without any ill effects; but although the 40-grain doses at first caused no disturbance, it was found that, when they were continued for any lengthened period, they caused giddiness and excessive sleepiness, which disappeared when the drug was discontinued.

News of the Week.

The Claimants for Priority in the discovery of a curative lymph have been put in a hard plight by the fact that they do not know yet what the lymph is. If a formula were given containing any known substance in heaven above or earth beneath, we should certainly be told that Dr. X——, of Blank, had used and recommended this years ago, and had cured many cases with it. As it is, we have only heard of two claimants, a Paris physician who uses injections of eucalyptol, and a New York physician, now deceased, who used some preparation from tuberculous tissues.

There is One Feature connected with Koch's recent discovery which ought to have a moral and didactic value to our countrymen. It is the spectacle of a man giving to the world a discovery which, if patented or even turned into a business venture, would bring to him untold millions. However much we may regret the secrecy maintained regarding the composition of the lymph, no one believes that it is for any selfish or commercial reasons that this secrecy is maintained. Koch declares his desire to turn over the manufacture to the National Government which will distribute it for the benefit of the human race.

Dr. Liebeault, of Nancy, the father of suggestive therapeutics and the scientific application of hypnotism to medicine, is about to retire from practice. A committee has been organized by some of his pupils for the purpose of raising a fund to present to him as a testimonial of regard for his character and work. Dr. Lloyd, of London, is Secretary.

Koch and Kotch.—It would really be a service to orthoëpy and morals, and a blow to vulgarity if the term "Koch," or the term "lymph," were dropped in lay journals. At first the un-German world were prone to speak of "Kotch's lymph," and "Kotch's discovery." Since it is learning that the *ch* is hard and still harder to pronounce, it would be better to say the curative lymph or the parataloid, if that is the term Professor Koch desires.

The Department of Charities and Correction of this city asked for $3,115,705, but were allowed only $2,100,137. This is a severe and apparently uncalled-for cutting down of medical appropriations. The department is a very large one and has a class of unfortunates, the sick and insane, under its care, whom the public think ought to be treated with particular consideration.

Guarding the Public Health.—Our Western brethren in Indiana are going to be sanitary or nothing. The State Board of Health has "requested" the owners or managers of all railroad coaches and street cars carrying passengers in this State to provide storm-doors or vestibules for each car designed to carry passengers. Thermometers must also be provided for each car, and the temperature kept at 68° or 70° above zero. Perfect ventilation must also be had. Spittoons must be provided, and the conductor required to see that one shall be partially filled with a solution of bichloride of mercury, and placed near the seat of any passenger suffering with chronic cough and expectoration, and that such person shall be directed to use the spittoon and not the floor.

A New Hospital Wanted for Italians.—Appeal is made for funds to start an Italian hospital in the city. It is a question, however, whether we have not hospitals enough for the present. If the Italian colony here would hire interpreters for the various existing city hospitals, it could accomplish a charitable work for very much less money than would be required for a new hospital.

Dr. A. T. Augusta, a prominent colored physician of Washington, D. C., died on December 21st.

Inspection of Immigrant Cattle.—The United States is very particular about its cows. It lets in half a million men and women, mostly of the scum of Europe, annually, without asking any questions; but not a cow, or pig, or sheep can come in or go out without a rigid inspection. The Department of Agriculture has just established a bureau in this city under charge of Dr. Mitchener and eight assistants, their duties being to inspect the exported and the imported cattle.

Northwestern Dispensary.—At the twenty-second Annual Meeting of the Northwestern Medical and Surgical Society the following officers were elected: *President*, Dr. S. Henry Dessau; *Vice-President*, Dr. Edward S. Peck; *Secretary*, Dr. Frank Graner.

Dr. E. C. Wendt is using the Koch lymph (obtained through the courtesy of Dr. L. Weber) in his service at the New York Infant Asylum and at the St. Joseph's Asylum.

A Remedy for the Abuse of Medical Charity, suggested by Dr. Gould (*Medical News*), is that a codicil to all wills and bequests be prescribed, worded in such a manner that, unless the trustees of the institutions named exercise stringent care that only truly needy persons receive the benefit of the bounty, the bequests shall revert to the heirs.

Instruction in Abortion.—The *Medical and Surgical Reporter* says that it has received a pamphlet which is evidently being widely distributed. This pamphlet offers for sale a translation of a book by Velpeau, in which instructions may be found how to produce abortion in a variety of ways, some of which are "not known to the medical world," and also "valuable hints as to the best means by which evasion of the law can be accomplished when a physician is so unfortunate as to be 'suspected' of having been guilty of the step."

Tea a Cause of Cold Feet.—Mr. Hutchinson says in the *Archives of Surgery*, July, 1890, that he once advised a lady to drink more tea. "I cannot touch it," was her reply. "It makes my feet icy cold, and wet with cold perspiration." On further inquiry, she assured Mr. Hutchinson that she was quite certain of her facts, and had often tested them. She thought that the perspiration was usually of the soles chiefly. Her hands were, she thought, also made cold, but not so definitely as her feet. Mr. Hutchinson says he had long been familiar with the fact that tea made the feet cold, but did not know that cold perspiration attended it. If drinking tea causes cold feet, then the Irish ladies who make up our tenement-house population must be walking around on solid chunks of ice most of the time, for they are all tea inebriates. As a matter of fact, Mr. Hutchinson's generalization will hardly do for this country, at least.

"Rizzling" as a Therapeutic Agent for Indigestion and Nervousness.—"Rizzling" is a new term in therapeutics and everywhere else. It is thus explained by a physician, who states that it is the most wonderful aid to perfect health. "I masticate my food very thoroughly at dinner," he says, "and make sure to have my family or friends entertain me with bright talk and plenty of fun. After dinner it is understood that I am going to rizzle. How do I do it? I retire to my study, and, having darkened the room, light a cigar, sit down and perform the operation. How to describe it I don't know, but it is a condition as nearly like sleep as sleep is like death. It consists in doing absolutely nothing. I close my eyes, and try to stop all action of the brain. I think of nothing. It only takes a little practice to be able to absolutely stifle the brain. In that delightful condition I remain at least ten minutes, sometimes twenty. That is the condition most healthful to digestion, and it is that which accounts for the habit animals have of sleeping after eating. I would rather miss a fat fee than that ten minutes' rizzle every day."—*Chatter.*

A New Cure for Spasm of the Glottis.—Spasm of the glottis is notoriously a very alarming condition, and one which it is often as difficult to relieve as the circumstances are urgent. Sir Morell Mackenzie gives a good "tip," and one worth remembering. The spasm is the result of a reflex, the starting-point of which varies in different cases, and he has found, as the result of experience, that a pinch of snuff, judiciously sniffed up the nostrils, will, by exciting another and violent reflex, cause the former to subside.

Number of Patients under the Koch Treatment.—On the first of this week there were under treatment at the hospitals in this city 116 patients. Mount Sinai Hospital has 29; the Montefiore Home, 21; the German Hospital, 19; St. Luke's, 17; Bellevue, 11, and St. Mark's, 9.

The Cradle of Influenza.—Professor Tessier, of the medical faculty of Lyons, has returned from Russia, whither he was sent last March to take evidence upon the course of influenza there and the various conditions of its evolution. He found that influenza is a growth of Russian soil, and when not a raging malady is a smouldering one. The way the people live in winter, locked up in heated houses; the flatness of the soil, its consequent bad drainage, and universally sodden condition when the April thaw begins; the filthiness of the farmyards, the village streets, and the rivers, which become suddenly swollen, and on falling leave a putrid mud behind; all conduce to make influenza endemic. Its microbe is, in fact, to be found in this mud. Dr. Tessier calls it a strepto-bacillus. What is peculiar in this disease is the alliance with this bacillus of pneumococcus, which also lives in Russian marshes, river mud, and village pools.

The Druggist is often termed the doctor's cook, but the tables have been turned in at least one instance, for we recently saw an advertisement in an exchange which read like this: Wanted—A physician to work in a drug store as clerk and write prescriptions. Send for particulars and salary. Good town and good location, etc.—*St. Louis Courier of Medicine.*

Jews have Cancer also.—Dr. John C. Hupp, of Wheeling, West Va., writes: "The assertion of one of the lecturers at Owens College, Manchester, quoted from an English paper in your issue of December 6, 1890, page 637, 'that no Jew or Jewess has ever been known to suffer from cancer,' is not correct. Three Jewesses have come under my observation suffering from cancer: two of these died 'suffering from cancer;' one lives minus her left mammary gland."

The Doctor is often a preacher of morals, but in "Every-day Etiquette," a recent work by Dr. Fisk Bryson, of this city, he, or rather she, becomes a preacher of manners also. Dr. Bryson's book is clever and sensible; and infuses into every day etiquette just enough anatomy and physiology to show that there is a physical as well as moral basis to good manners.

A California Physician has let loose the statement that "American medical men do others as others do them." This ingenious perversion and individual appreciation of the second commandment has excited an active controversy in the *Occidental Medical Times*, out of which we trust much good will grow.

Sulphur.—Professor Boudard's views fit in not only with my grandmother's practice, but also with the dictum of the late celebrated Dr. Budd, of Plymouth, who used to say, according to the local gossips, that sulphur was the best medicine in the Pharmacopœia of his day, and that if it were a guinea an ounce more would be taken.—*Hospital Gazette.*

Chocolate Inebriety.—A chocolate inebriate has appeared. His addiction has been for three years, and his general health is much impaired, principally the digestion. His only thought night and day is how to get chocolate.

A Boston Theory.—The prevalence of earache and neuralgia among women and children this year is attributed by a well known doctor in town to the draught which is created between the face and the high sleeves now in vogue.

Women Doctors in Germany.—An association of German women, at a meeting a short time ago, passed a resolution agreeing to a petition being presented to the German governments, praying for permission to be granted to women to study medicine. The petition so far has been flatly refused by Prussia, Würtemberg, Saxony, and the Duchies of Hesse-Darmstadt and Saxe-Weimar. This is not surprising in view of the hyper-congested condition of the medical profession in the fatherland.

Suicides in France.—In France, from 1827 to 1880, about two hundred thousand persons committed suicide. Of these, over fifteen thousand men and eleven hundred women were inebriates, and intoxicated at the time of death.

Our Contemporary, the Post-Graduate, comes to us under a new management and with very entertaining contents. It is made up largely of accounts of the International Congress, by various professors in the school, who give their personal experience and impressions regarding the work of the sections of surgery, medicine, dermatology, ophthalmology, neurology, etc.

The Hand of Esau and the Voice of Jacob.—Dr. W. E. Forest writes: "In the report of the meeting at the New York Academy of Medicine, of December 4th, given in your journal of the 13th instant, your reporter by mistake ascribes remarks, under the head, 'A New Form of Artificial Respiration,' to Dr. A. S. Hunter. The credit for these remarks, if they are worthy of credit, should be given to myself. In conversation with your reporter I learn that he made the mistake through thinking that my voice was that of Dr. Hunter, and thus did not look up from his writing to see that the speaker was 'a younger and a handsomer man' than is my friend Hunter. A very similar mistake occurred some time ago, when our ancestor Isaac gave the blessing to the wrong son, reported in Genesis xxvii. 22. 'The voice is Jacob's voice, but the hands are the hands of Esau.'"

Hospital Graduates' Club.—The following officers have been elected: *President*—Dr. Nelson H. Henry; *Vice President*—Dr. James E. Newcomb; *Secretary*—Dr. T. T. Janeway. This is one of the most prosperous of the younger medical clubs. A full term of service in a recognized hospital is a prerequisite for membership, and we learn that this idea is being followed by hospital men in other cities.

A Widows' and Orphans' Society in Philadelphia.—Dr. Henry Tuck, President, and Dr. Gouverneur M. Smith, late President of the New York Society for the Relief of Widows and Orphans of Medical Men, by invitation of the Physicians' Mutual Aid Association of the Philadelphia County Medical Society, addressed that association on Wednesday evening, December 10th, explaining the operations of our New York Society. After the meeting the members gave a reception at the University Club to Drs. Tuck and Smith, and also to Professor Roswell Park, of Buffalo, who had lectured in the Mutter course.

The xl. was Written like xii.—Dr. Julius Rosenberg writes: "Will you oblige me by correcting a few errata which are contained in my article on 'Fuchsine,' published in the last MEDICAL RECORD. The fuchsine contained in each solution should be grs. xl. (40), instead of grs. xij. (12), and solution No. II. should contain—aquæ, ℥ xv. (15)."

The Supply of Koch Lymph for New York is still limited, notwithstanding the reports to the contrary. Its use is so strictly confined to the different hospitals here that, for the present at least, it will be vain for medical friends in distant parts to hope for the coveted fluid. Those gentlemen who have the fluid in charge are under restrictions not to use it, or allow it to be used, outside of their wards, or without their direct supervision. This is in order to guard against accidents with private patients, who cannot be constantly under the eye of a medical man. Urgent and suitable cases can be treated in the hospitals, and in no other way. In the course of the next month it is expected that a sufficient quantity of the lymph will arrive, not only to abundantly supply all the hospitals here, but others in the principal cities.

Society of the Alumni of Charity Hospital.—At the meeting of the Society of the Alumni of Charity Hospital, held December 9, 1890, Dr. Newton, of Montclair, N. J., presented a specimen of supposed myxo-adeno sarcoma from the uterus of a woman eighty-two years of age. Dr. Brooks Hughes Wells read a paper on peri-uterine inflammations, in which he took the ground that no man should be allowed to marry while suffering from even the slightest gleet, because of the danger of infecting his wife and lighting up pelvic trouble. An animated discussion followed, which was participated in by Drs. Clemens Cleveland, Bryson Delavan, J. B. Bissell, W. L. Carr, and others. The following officers were elected for the ensuing year: *President*—Bryson Delavan, M.D.; *Vice-President*—Ramon Guitéras, M.D.; *Secretary*—D. E. Walker, M.D.; *Treasurer*, A. T. Muzzy, M.D.

An Aseptic Operating-room.—Dr. E. B. Thompson, of Marion, Ala., suggests a new idea for an aseptic operating-room. Within a well ventilated and lighted room of thirty by forty feet is constructed a small glass room of ten by twelve feet. The room to contain only the things absolutely necessary for the operation; solutions to be drawn by pressing a button, and purified air for respiration to be forced in through tubes. By a portcullis arrangement of door he would have gynecological cases admitted to the chamber only so far as the part to be operated upon, the space around the patient to be closed by the outside assistants.

No Doubt About It.—"You think there never was another baby like yours, don't you?" said the cynical old doctor to the young mother. "No, doctor," replied the young mother, reproachfully, "I don't think so; I know there never was."

Our Legless Population.—It is estimated that there are about three hundred and fifty thousand persons in this country with only one or with no legs. Many lost their limbs in the war, but since that time the great amputator is the railroad. Ninety per cent. of amputations are chargeable to the railroad, according to a writer in the *Times*, who also states that among 4,056 cases of loss of limbs reported in the daily papers, in six months, 3,500 were railroad cases.

Dr. Joseph Edward Ralph died at Canarsie, L. I., on December 9th, aged seventy-three years. He came to this city from England fifty years ago, with his father, Dr. Joseph Ralph, who established himself here at the solicitation of Alexander Mott and other leading physicians.

A Royal Teetotaller.—The King of Samoa is determined that his subjects shall be sober, if they are not free. He has just issued a proclamation to the following effect: "No spirituous, vinous, or fermented liquors, or intoxicating drinks whatever, shall be sold, given, or offered to be brought or bartered by any native Samoan, or Pacific Islander resident in Samoa, to be taken as a beverage." Any breach of this law is to be visited with heavy penalties.

California Medical Colleges.—The Cooper Medical College of San Francisco held its commencement exercises November 13th, and conferred degrees upon a class of twenty. The Medical Department of the University of California held its commencement on November 20th, and graduated a class of thirteen.

The Struggle for Existence in the Profession.—While so many gloomy things are being uttered by amateur social scientists, respecting the struggle for existence, it is pleasant, says the *British Meaical Journal*, to read the following words of a great American physician, Dr. Jacob Bigelow, the nonagenarian, father of the eminent surgeon recently deceased. "I have an unqualified belief," said he, "that by far the most happy form of life is that which proceeds through difficulties to success, and in which the candidate, after beginning at the bottom of the ladder, finds himself to be a little raised in position, ability, and usefulness during the successive years of his life. In this way only does he appreciate the value of little acquisitions and of small advances in the social scale. Difficulty is the best antidote for satiety, and is needed by multitudes who begin life in the early possession of things for which others must wish and labor and wait." These words are recorded in Mr. G. E. Ellis's "Memoir of Jacob Bigelow, M.D."

Grafting the Thyroid for Myxœdema.—The operation of grafting the thyroid in a case of myxœdema has again been performed with success. The patient was shown by M. Merklen, at a recent meeting of the Société Médicale des Hôpitaux in Paris; the thyroid graft was taken from a living sheep at the time of the operation; no antiseptics were used, but the graft and wound were kept carefully aseptic. Healing occurred by first intention, and the patient, a woman aged forty-one, improved considerably. The improvement appeared to be due in great part to the arrest of metrostaxis, from which the patient had previously suffered for months at a time; the hemorrhage ceased three days after the operation, and had not recurred when the report was made, three months later. The swelling of the face had decreased, the pseudo-lipomata diminished, and the mode of speaking became more natural. The graft, which consisted of one of the lobes of the gland, was inserted beneath the skin in the right submammary region.—*British Medical Journal.*

The Operation of the Removal of the Gasserian Ganglion for tic douloureux, has recently been done by Professor William Rose, of London. The patient's eye was lost on the affected side, but the neuralgia ceased. This is said to be the first instance in which such an operation has been done.

Quinine and the American Girl.—There are very few freaks of nature which quite come up to the American girl, if one may judge by the statements found in current European literature. One of the latest outbreaks of the feminine American fancy is the quinine habit. "American girls," says the *British Medical Journal*, "now carry about with them ornamental cut-glass bottles containing quinine pills, with which they dose themselves from time to time. If fatigued they take two pills; if chilly, one; if hungry (as they generally seem to be), four or five. We believe that ten is the correct dose for wet feet. The quinine bottle is equal to every emergency, and produced on all occasions. We are glad," adds the *Journal*, "it is no worse than quinine; at one time it used to be morphine and strychnine pellets; it might even now be ether."

THE KOCH TREATMENT IN NEW YORK.

CASES AT ST. LUKE'S HOSPITAL.

SERVICE OF DR. FRANCIS P. KINNICUTT.

AT the end of the second week of investigation of the treatment of tubercular disease by inoculation with Koch's lymph, in the wards of St. Luke's Hospital, the first profound impression made upon the observers of its potency and elective affinities have only been strengthened.

As a thorough clinical study of a larger number of cases would be impossible, only seven new patients have been inoculated, making the total number of cases at present under treatment twenty-two. The new cases are as follows: one case of aggravated eczema of the hands, orbicular in form, inoculated as a control experiment; one case of lupus of the uvula and contiguous portions of the throat; One case of tubercular glands (cervical and submaxillary), with doubtful signs of infiltration at the apex of one lung; one case of epithelioma of the hand, inoculated with the view of studying the possible effect of treatment; one case of tubercular disease of the ankle-joint; one of hip-joint disease; and one of pulmonary tuberculosis in its incipient stage.

The rule has been maintained of making use of 0.001 gm. for the initial inoculation in adults, of 0.0005 gm. in children. The rule is also adopted of continuing the same dosage until reaction ceases to be developed; of increasing its strength by 0.0001 gm. successively as reactions cease to appear. In cases of lupus, Koch's suggestion that inoculations be given at intervals of a week or longer, that is, only after local reaction has subsided, is now followed.

The observation has been made that the systemic disturbances in this disease are less severe than those exhibited in other forms of tubercular disease, the inoculations being of similar strength. Inasmuch as the reaction in several instances has been delayed as late as twenty-four hours, and has then been characteristic, daily inoculations are not given in any instance. Local irritation at the site of inoculation has not occurred in any of the cases.

The possibility of obtaining equally good results with a smaller amount of lymph than that used by the German investigators has apparently been demonstrated; 0.004 gm. for a single inoculation has not been exceeded up to the present date in any instance. By this method, moreover, it seems that the distressing, if not grave, symptoms of very acute reactions may be avoided. The marked systemic disturbances, aside from the rise in temperature, in a number of patients treated with small doses, has been impressive, and has suggested caution in treatment.

The appearance and condition of the patient during the period of reaction, in many instances, has been suggestive of the presence of an acute infectious disease. A low arterial tension has obtained, as a rule. No increase in the area of splenic dulness has been appreciable in any instance after inoculation.

Characteristic reactions have been obtained in all cases, with the exception of the one mentioned in the previous number of the RECORD,[1] and the case of eczema. In the latter no constitutional or local reaction occurred.

The local changes observed in the remaining cases of lupus correspond very closely to those described in the case whose history is appended. In all the patients suffering from pulmonary tuberculosis the present physical signs indicate a more extensive area of infiltration than was suspected. The local signs in the cases of bone tuberculosis have been of the greatest interest. The records, subsequent to the third inoculation, of the three patients whose histories were given in the last number of

[1] The inoculation in the case of epithelioma of the hand was made too late to state the result at the present hour.

the MEDICAL RECORD, are appended. The history of a case of incipient hip-joint disease has also been selected as presenting points of especial significance.

CASE I. (of previous report). *Tubercular Infiltration of Apex of Right Lung.*—Re-inoculations, 0.001 gm., were made on the 20th and 22d, the reactions being very similar to those previously described. The physical signs observed at the present date differ very materially from those present prior to the first inoculation. They consist in a distinct increase in the moist crepitation, which is heard over a decidedly larger area, associated with large mucous râles, and an extension of the limits of broncho-vesicular respiration. The inference is that the tubercular infiltration is more extensive than was appreciable by physical signs.

CASE II. (of previous report). *Prostatic Surface Tubercular Disease.*—Inoculations 0.001 gm. were made on December 19th and 22d, with the development of reactions very similar to those previously obtained. The only appreciable difference in the patient's symptoms prior to the first inoculation, and at present, consists in the greater freedom from pain in the urethra on passing urine.

CASE III. (of previous report). *Lupus Vulgaris of the Ear and Contiguous Portions of the Face and Neck, of Twelve Years' Duration.*—Last inoculation, December 16th, 0.003 gm. It was deemed advisable to permit all local reaction to subside before further inoculations, and none have been made since. The present appearance of the diseased tissues is described by Dr. George H. Fox, as follows: The crusts having been removed by the application of cotton wool in oil, the affected area appears red and smooth, and the cicatricial lines from previous scarification are again apparent. There is less appearance of lupus infiltration. The whole ear is softer to the feel; this is especially true of the lobe, which, aside from the presence of hyperæmia, has a normal look and feel.

CASE IV. *Incipient Hip-joint Disease.* — Female, aged six, in the service of Dr. Newton M. Shaffer, at the New York Orthopædic Dispensary, from November 9, 1890, until admission to St. Luke's Hospital.

Previous history: Patient had been noticed to limp for three weeks, and had had "night cries" for about the same period.

Examination: Characteristic limp, attitude, and reflex muscular protection of the joint present; although these signs were not of the most pronounced type, a diagnosis of incipient hip-joint disease was made by Drs. Samuel Ketch and Newton M. Shaffer, after a very careful examination. A long traction splint was applied.

Admitted to St. Luke's Hospital December 17, 1890. Dr. Shaffer, by my request, has very kindly made daily examinations of the patient, and all further reports of the joint signs are given in his own words. Examination by Dr. Shaffer immediately before first inoculation. Patient has no pain, walks with a perceptible limp, the thigh being slightly flexed in locomotion. Examination of joint shows no perceptible swelling. The inguinal fossa on right side not quite so pronounced as on left. Concussion of the hip joint gives no pain. There is no deformity present, the flexion above noted disappearing when the patient is recumbent.

The tests, as applied to the movements of the hip, resulted as follows: Flexion markedly resisted about 10 degrees short of full flexion. When this point is reached the patient flinches very decidedly, as is also the case in abduction and adduction of the thigh, both these movements being limited by reflex muscular spasm a few degrees short of normal. With the thigh flexed to about 135 degrees rotation *in* is very markedly resisted. Rotation *out* in same position resisted only in the extreme. With patient prone, extension of thigh (pelvis being held firmly) quite noticeably resisted. In this position, both rotation *in* and rotation *out* were very much restricted. In all these tests the patient flinched very plainly when it was attempted to pass joint beyond the point indicated by the instinctive muscular protection.

First inoculation, December 17, 1890, 3.30 P.M. Temperature normal; 0.0005 gm. Reaction developed eight hours later. Duration of reaction, thirty-seven hours. Highest temperature, 103° F.

Examination, December 18th, twenty four hours later. Hip-joint in position characteristic of hip joint disease in the second stage—that is, the thigh is abducted, apparently elongated, flexed and rotated outward. The joint is very sensitive, the slightest attempt at motion giving pain. By using great care 10 degrees of lateral movement (in abduction and adduction) can be demonstrated. There is a movement of flexion of only 15 degrees. No rotation can be demonstrated. The inguinal fossa is obliterated, and there is œdema of posterior swelling. The deformity present was as follows: Thigh flexed at 150 degrees; abduction, 20 degrees; rotation out, about 30 degrees.

The following peculiar condition was noted, unlike that found in morbus coxæ, in the acute stage. The patient noticed no difference between crowding the joint surfaces together and on making traction on the joint. Each test produced pain, and there was no relief from traction.

December 19th. Joint movements much changed for the better; all movements of the joint can now be made, but they are still greatly restricted.

Deformity: Flexion 160 degrees; abduction nil. Rotation in and out still restricted.

Rotation in gives pain. Patient still notices no difference between pressure and traction upon the joint; swelling still present.

December 20th. Joint movements very much like those of yesterday. The same may be said of the deformity. Joint can be handled with much more freedom. Inguinal fossa still obliterated.

Second inoculation, December 20th. Temperature normal; 0.0005 gm. Only a very slight reaction developed eleven hours later. Duration of reaction, eighteen hours. Highest temperature, 100° F.

Examination, December 21st, twenty-four hours later. Motion in joint is more free than yesterday, except in adduction, which can be made of 5 degrees. Rotation still being limited. Inguinal glands can be made out. Deformity: Flexion, 155 degrees. Rotation out, unchanged. Muscular resistance at joint well marked. Tenderness of joint diminished.

December 22d. Examination at 5 P.M., Dr. Thomas L. Stedman being present. The following movements of the joint are normal, viz.: Flexion, adduction, and rotation out; rotation in, extension, and abduction are approximately normal; rotation in during flexion is slightly resisted. Another important condition was noted at the examination: The character of the muscular resistance is unlike that observed at the examination of December 17th.

The peculiar instinctive muscular check which accompanies hip-joint disease, and which was noted on December 17th, has disappeared. The muscular resistance to-day can be overcome by gradual and gentle pressure, without pain or flinching, and that which appears to be a fixed resistance to joint movement disappears. The joint can be handled with freedom without inflicting any pain. Still some swelling in inguinal fossa.

There are four points that seem very instructive: 1, the diagnostic value of the lymph; 2, the immediate and extraordinary changes produced in all the signs and symptoms by inoculation; 3, the fact that although the joint was acutely painful, traction gave no relief; 4, the great change in the character of the muscular protection to the joint.

It was deemed best to use the long traction splint during the treatment, and the immobilization produced by it was of great comfort to the patient. The future history of the patient will be watched with great interest.

AT ST. MARK'S HOSPITAL.

REPORT OF CASES TREATED AT ST. MARK'S HOSPITAL FROM DECEMBER 11TH TO DECEMBER 22D.

CASE I. *Phthisis.*—W. P——, aged fifty-four, waiter. Bilateral tuberculosis of the apices of lungs with occasional hæmoptysis and all other signs of consumption since May, 1890; bacilli in sputum. Disease began after a severe attack of influenza last winter. Daily doses of 0.001 milligramme were followed by the usual reaction of fever up to 102.5° F.; increased expectoration after the fifth injection. The patient's appetite and strength improved considerably. Auscultation now shows increased râles; breathing less harsh.

CASE II. *Phthisis.*—Samuel S——, aged twenty five, Hungarian, cutter. Present illness dates back about five and one-half years, when it commenced with cough, expectoration and night sweats. Cavernous breathing on left side anteriorly; bronchial breathing at right apex posteriorly.

December 15th. 4 P.M.: Temperature, 100.4° F.; injection of 0.002 milligr.; 11 P.M.: Temperature, 98.8° F. Very severe attack of dyspnœa.

December 16th. 9 A.M.: Temperature, 98.2° F.; 4 P.M.: Injection of 0.002 milligr.

December 17th. 5 P.M.: Injection of 0.002 milligr.; 11 P.M.: Temperature, 100.2° F.

December 18th. 9 A.M.: Temperature, 99.3° F., cough increased, also expectoration; 5 P.M.: Injection of 0.002 milligr.

December 19th. 9 A.M.: Temperature, 99° F.; slept better during night, and expectoration is looser and easier; increased appetite; 5 P.M.: Injection of 0.002 milligr.; 11 P.M.: Temperature, 102.4° F.; collapse and dyspnœa.

December 20th. 9 A.M.: Temperature, 98.4° F.; 5 P.M.: Injection of 0.002 milligr.; 9 P.M.: Temperature, 101° F.

December 21st. 9 A.M.: Temperature, 99° F.

December 22d. 9 A.M.: Temperature, 98.2° F.

CASE III. *Lupus.*—Marcus A——, aged fifty one, Hungarian. Present illness dates back about four years; commenced as a very small black speck on tip of nose, and has gradually grown, and now covers half of nose and part of cheeks. It is lupus erythematodes. As it is desirable to show if this form of lupus would be affected by injections of Koch's lymph in a manner similar to cases of "lupus vulgaris," the patient receives the following treatment:

December 18th. 3 P.M.: Temperature, 98.8° F.; 5 P.M.: Injection of 0.002 milligr.

December 19th. 10.40 A.M.: A noticeable difference in the appearance. The region involved by the disease at the tip and on the right side of the nose appeared elevated and reddened and dotted with several whitish blisters. This extended about one centimetre beyond the seat of the affection, while the rest of the nose remained undisturbed. 11 P.M.: Temperature, 97.6° F.; 1 A.M.: Temperature, 97.4° F.; 11 A.M.: Temperature, 98.2° F.; 5 P.M.: Injection of 0.002 milligr.

December 20th. 3 A.M.: Temperature, 97.6° F.; 11 A.M.: Temperature, 98.2° F.; 5 P.M.: Injection of 0.002 milligr.

December 21st. 12.15 P.M.: Injection of 0.002 milligr.; 4 P.M.: Temperature, 100.4° F.

December 22d. 9 A.M.: Temperature, 99° F.; 3 P.M.: Temperature, 99.2° F.

CASE IV. *Phthisis.*—Emma K——, aged forty-nine, two years ago great pain along spine and in lower extremities; the pain in back has continued more or less up to present time. Patient can be up and around sometimes, but is mostly in bed. Has never had any pain in hands or arms. Pain most severe about hips and knees, but not confined to these joints. Lower extremities now much atrophied. Cough and muco-purulent expectorations for about a year. Dulness over right apex anteriorly. Left side, anteriorly, dulness from apex to third rib. Right side, prolonged expiration, increased respiratory sounds. Left side, bronchial respiration, moist râles here and there.

December 11th. Injection of 0.001 milligr.

December 12th. 1 A.M.: Temperature, 104½° F.; 9 A.M.: Temperature, 99° F; 11 A.M.: Injection of 0.002 milligr.

December 13th. 12 M.: Injection of 0.003 milligr.; 6 P.M.: Feeling of constriction over diaphragmatic region.

December 14th. Copious expectoration; 10.45 A.M.: Injection of 0.006 milligr.

December 15th. 4 P.M.: Injection of 0.002 milligr.

December 16th. 5 P.M.: Injection of 0.002 milligr.

December 17th. 9 A.M.: Temperature, 100° F.; 5 P.M.: Injection of 0.002 milligr.

December 18th. 10.20 A.M.: Temperature, 99.6° F.; 5 P.M.: Injection of 0.002 milligr. Patient feels much better generally; appetite excellent; frequent cough and copious expectoration; 11 P.M.: Temperature, 99.6° F.

December 19th. 9 A.M.: Temperature, 99.8° F.; 5 P.M.: Injection of 0.002 milligr.; 11 P.M.: Temperature, 100° F.

December 20th. 9 A.M.: Temperature, 99.4°; 4.30 P.M.: Injection of 0.002 milligr.; 10 P.M.: Temperature, 100° F.

December 21st. 8 A.M.: Temperature, 99.4° F.; 6 P.M.: Temperature, 100.2° F.

December 22d. 8 A.M.: Temperature, 98.8° F.; 2.30 P.M.: Temperature, 99.6° F.

CASE V. *Phthisis.*—Emma R——, single, United States, seamstress. Present illness began about May, 1890. Commenced with cough, and expectoration. Night-sweats and hectic fever came on in September. Has lost four pounds since August; complains of chills every night the past week.

December 12th. 11.30 A.M.: Injection of 0.001 milligr.; 1.30 P.M.: Temperature, 103.4° F.; 11 P.M.: Temperature, 101.4° F.

December 13th. 3 A.M.: Temperature, 102° F.; 9.30 A.M.: Temperature. 99.8° F.; 12 M.: Injection of 0.002 milligr.; 6 P.M.: Temperature, 103° F. Complains of constriction over diaphragmatic region.

December 14th. 9 A.M.: Temperature, 99.6° F.; 10.40 A.M.: Injection of 0.003 milligr.; 2 P.M: Slight chill.

December 15th. 9.30 A.M.: Temperature, 100.8° F.; 4 P.M.: Injection of 0.002 milligr. Sensation of formication along back during night.

December 16th. 10 A.M.: Temperature, 101.6° F.; 5 P.M.: Injection of 0.002 milligr.

December 17th. 9 A.M.: Temperature, 100° F.; 5 P.M.: Injection of 0.002 milligr.

December 18th. 10.30 A.M.: Temperature, 100.6° F., expectoration more copious and easier; 5 P.M: Temperature, 101.6° F.; injection of 0.002 milligr.

December 19th. 9 A.M.: Temperature, 99.2° F.; 5 P.M.: Temperature, 101° F.; injection of 0.002 milligr.

December 20th. 7 A.M.: Temperature, 99.8° F.; 12 M: Temperature, 102.2 F.; 4.30 P.M.: Temperature, 101.2° F.; injection of 0.002 milligr.; 10 P.M.: Temperature, 101° F.

December 21st. 8 A.M.: Temperature, 99.4°F.; 9.30 to 10.10 A.M., had a slight chill of forty minutes' duration. 10.30 A.M: Temperature, 102.8° F.; 12.30 A.M: Temperature, 103.4° F.; 6 P.M: Temperature, 101.8° F.

December 22d. 6 A.M.: Temperature, 99.2° F.; 4.15 P.M: Temperature, 102 8° F.

CASE VI. *Tubercular Caries.*—Benjamin G——, aged twenty-two, admitted September 20, 1890. Present illness dates back four months, with symptoms of caries of left ankle-joint. Two months afterward suppurating sinuses. October 4, 1890, resection of ankle joint.

December 11th, he was subjected to treatment by lymph, as there was fear of tubercular disease, present in

joint. 12 M.: Temperature, 98.4° F.; injection of 0.001 milligr.; 8 P.M.: Temperature, 100° F.

December 12th. 11 A.M.: Temperature, 99.2° F.; injection of 0.002 milligr.; 8 P.M.: Temperature, 100° F.

December 13th. 11 A.M.: Temperature, 98.4° F.; 12 M.: Injection of 0.007 milligr.; 8 P.M.: Temperature, 100.4° F.

December 14th. 8 A.M.: Temperature, 100° F.; 10.40 A.M.: Injection of 0.006 milligr.; 7 P.M.: Temperature, 100° F.

December 15th. 11 A.M.: Temperature, 99° F.; 4.15 P.M.: Injection of 0.006 milligr.; 11 P.M.: Temperature, 98.2° F.

December 16th. 9 A.M.: Temperature, 98.2° F. Ceased to use the lymph after 4.15 P.M., December 15th, as there was no local change in the character of the suppurating operation wound, and it was, therefore, reasonable to suppose that all tubercular deposits had been removed by the surgical procedure.

CASE VII. *Lymphomata of Neck.*—Michael L——, aged twenty five. Came in with numerous lymphomata, involving both sides of neck. Dr. Beck removed all of them October 14, 1890, from the right side, and November 7, 1890, from left side of neck.

To remove doubts as to possible tuberculosis, December 11th, at 11.30 A.M., injection of 0.001 milligr.; 8 P.M.: Temperature, 104° F. Some expectoration.

December 12th. 11 A.M.: Temperature, 98.4° F.; injection of 0.002 milligr.; 8 P.M.: Temperature, 101° F. Some expectoration.

December 13th. 11 A.M.: Temperature, 99° F.; 12 M.: Injection of 0.003 milligr. Some expectoration.

December 14th. 2 A.M.: Temperature, 102° F.; 10.45 A.M.: Temperature, 99.4° F.; injection of 0.005 milligr.; 7 P.M.: Temperature, 102.2° F.

December 15th. 9 A.M.: Temperature, 99.4° F.; 4.15 P.M.: Injection of 0.006 milligr.

December 16th. 9 A.M.: Temperature, 100° F.

December 18th. Discharged from hospital.

CASE VIII. *Phthisis.*—John G——, aged fifty, had typhoid fever, 1860. Received wound in thigh in Civil War. Never had rheumatism. Present illness dates back three years; commenced with a cough and expectoration. Has lost considerable flesh the last eighteen months. Sleeps poorly. Percussion reveals, left side, posterior, flatness from apex to lower angle of scapula; right side, posteriorly, flatness down to middle of scapula; left side, anteriorily, supra-clavicular space, dulness almost to flatness; right side, anteriorly, dulness almost to flatness. Auscultation: Left posterior apex, harsh and prolonged expiratory murmur; right posterior apex, amphoric breathing.

In this case of old phthisis tuberculosa the injections with 0.001 milligr. were begun December 18th. The reaction thus far has been the usual one.

General Results.—Now as to the general results observed thus far. It is to be noted that we had to deal with severe symptoms of collapse in one case after the first injection; had a gradual fall instead of rise of temperature in the case of E. R—— after first injection. In all cases the patients' appetite and feeling of strength and comfort improved soon after the use of the injections; in the case of W. P—— there is no perceptible difference in the number of bacilli seen in the sputum now and before the injections were used. J. G——'s sputum shows now fewer and smaller tubercle bacilli than before the injections. Mrs. E. K—— has shown a smaller number of bacilli before and after injections, Miss E. R—— few bacilli but a large number of streptococci after first week of injections.

Her expectoration, which was scanty when she came on December 12th, is now quite considerable; râles moist, frequent; general condition improved very noticeably. Dulness of percussion pretty much the same as before. In only one of our cases has the percussion dulness anteriorly at the beginning of the second week of treatment.

The case of very slowly healing fistula in ano (operated upon) in a man of about forty-eight, who is not included in the above list, received three injections of 0.002 milligr. each in three succeeding days to determine the question: Tubercle or no? No reaction whatever taking place it is concluded that tuberculosis is not present.

Another healthy inmate of the hospital submitted to a few injections of 0.001 and 0.002 milligr. each, which were administered for comparative study. No reaction whatever could be noticed.

DR. L. WEBER, *Consulting Physician.*
S. G. KAHN, *Visiting Physician.*
GEO. W. RACHEL, *House Physician.*

DECEMBER 23, 1890.

CASES AT MONTEFIORE HOME FOR CHRONIC INVALIDS.

Service of DR. SIMON BARUCH.

(DR. MAX ROSENTHAL, House Physician.)

WE are not yet in a position to formulate definite conclusions regarding the promising discovery of Koch. The material now accumulated in our hospital is of great value and it behooves us to sift our results with great caution. My own data refer to 71 injections in 12 male and 9 female patients. The reaction was undoubted in every case, although not so pronounced as is reported in the cases from abroad. An element of fallacy must be excluded. Several of the cases, male and female, who had for a week previous to the injection presented a normal temperature, presented a rise of from one-half to one and a half degree immediately preceding the injection. Every case of phthisis presented a rise of temperature within twenty-four hours; and one case of ulceration in the left cervical region, with fistulous canal, resisted a gradual advance until 5 milligr. were reached, when the temperature rose from 97.8° F. to 102.4° F. and has again fallen to 97.4° F. There is an increase in the discharge from the ulcerated surface; the patient's general condition is unchanged. One case presented a jaundiced discoloration of the skin, bleeding from the nose, with headache and nausea. His cough and expectoration decreased. In the majority of the cases cough and expectoration decreased, the latter becoming more mucoid, as Koch has demonstrated.

Nose-bleed occurred in two cases. Cough was diminished and expectoration increased in four cases. Decided nausea and headache occurred in eleven cases. Every case injected reached a normal temperature once or oftener.

The Course of the Treatment.—Pulse: The lowest pulse-rate recorded is 44; the highest 134. Respiration: The lowest respiration recorded is 17; the highest, 45. Temperature: The lowest temperature recorded 97.4° F.; the highest 103.2° F. Weight: Of eight male patients weighed, one lost one-half pound, one lost one pound, one gained three-quarters pound, one gained one-half pound.

In face there is no difference. The most remarkable point in my experience is that in two cases, which were ready to be discharged on account of the abeyance of symptoms and physical signs and gain of weight (one gained twenty-one pounds and the other thirteen and one-half under hydrotherapy), there is loss of weight since the injection.

These cases would have been regarded as practically restored had not the Koch injection of one night produced a decided reaction. One of these cases is, perhaps, more completely affected by the lymph than any other. This, I regard, as a complete confirmation of Koch's claim of the diagnostic value of the injection in suspected tuberculosis.

47 EAST SIXTIETH STREET, December 23, 1890.

AT THE ST. FRANCIS HOSPITAL, NEW YORK.

Dr. George F. Shrady inoculated seven cases on Wednesday; two for tubercular disease of knee-joint; one for tubercular caries of wrist joint; one for carious sinus of thigh; one for scrofulous sinus of groin; one case of incipient phthisis, and one case of phthisis in second stage. The latter was a patient of Dr. John H. Ripley. The inoculations were prepared under the supervision of Drs. Max Einhorn and E. C. Wendt, and according to the strict Berlin method. Up to the time of going to press a sufficient period had not elapsed for reactions to occur.

The reports from the Mount Sinai and German hospitals were not received from Drs. Jacobi and Heineman in time to appear in this issue. Neither was that from Dr. Loomis giving the official account of cases treated in Bellevue Hospital We shall incorporate them with our account in our next issue.

In a general way it may be said that no new features have been developed. The reactions in the phthisis cases have been quite constant, as also in the cases of lupus, the latter having been reported as improving. The doses have generally been one milligramme, which has been cautiously increased in accordance with the amount of reaction produced. As yet no accidents nor serious complications have occurred in connection with the inoculations; neither has there been any death attributable to their use.

THE KOCH LYMPH BEFORE THE COUNTY MEDICAL SOCIETY.

Dr. Linsley, at the meeting December 22d, gave an account of his recent trip to Berlin, where he had been sent by the Post-Graduate Medical School to study the action of the Koch lymph, and to secure some of the fluid for use in the hospital connected with that school. He witnessed the treatment at the Gehrhardt and Von Bergmann clinics. Both clinics were extremely crowded by students and doctors. At Gehrhardt's the patients were mostly those suffering from pulmonary tuberculosis, the disease usually being in the incipient stage, although he had seen the injections made in some advanced cases. His description of the reaction after the injections, and of the results obtained, corresponded with that already published in the medical journals. In the end the patients with pulmonary tuberculosis in the incipient stage were almost, without exception, apparently in better condition; the sputum became thinner, night-sweats disappeared. It was noted that the previous history, so far as he could learn, was not taken. The operator passed directly from one patient to the other, without each time again cleansing the needle. It would seem the inoculations would have to be continued for a period yet undetermined, but certainly until the patient ceased to show reaction after the injections. Professor Gehrhardt thought the outlook for the treatment was most encouraging, and that seemed to be the opinion of the profession throughout Berlin.

Von Bergmann presented patients whom he declared cured of lupus, from the milder to the more marked forms. The result was complete cicatrization of the ulcer in from two to six weeks. It could not be said that the ulcers would not break out again, but this would seem unlikely if fresh inoculations were made. As to the composition of the lymph, it was a matter solely of speculation. It was not likely to be made known soon. He thought one reason why it was held back was the fact that Koch himself was not yet fully satisfied, and was still experimenting. He could state on pretty good authority that the order in which it would be supplied to nations for use in hospitals and institutions was: Germany, Austria, Italy, America, then the other European countries. It was doubtful whether it would be supplied to individuals at all. As he had said, advanced cases of pulmonary tuberculosis were not regarded as suitable for this treatment, yet it had been practised in some cases, and he had attended some autopsies.

No Benefit in Phthisis.—Dr. Frederick Warner, who had spent two weeks in Berlin, leaving on the 13th inst., said that in the private course which he had been permitted to take, studying the effects of the inoculations on the tubercular cases in the hospital, he must admit to having seen no results worth mentioning. He added that, of course, most of the cases were of advanced phthisis. The only patient in whom he saw any good result was a man with tubercular laryngitis, who had, under the treatment, regained his voice. In enlargement of the glands of the neck, he had seen diminution in size by two-thirds. The most remarkable results, however, were noticed in cases of lupus. He mentioned one case in particular, that of a woman whose whole face, almost, was one ulcer; yet under the inoculations the healing process went on until an ulcer only the size of a pea was left. There remained no appearance of a scar, but good healthy tissue.

Dr. Simon Baruch gave some of the points in the treatment of twenty-one patients by the Koch lymph in the Montefiore Home. It seemed valuable in diagnosis. The curative results could not yet be determined.

Dr. Daniel Lewis showed a man with lupus about the eye whom he proposed to subject to the treatment and exhibit afterward.

Dr. A. H. Smith thought it would be desirable to fix a standard for cases which were, and which were not, suitable for this treatment.

Dr. Linsley supposed that standard would be for those suitable for the treatment, absence of pulmonary cavities; that is, incipient phthisis; yet he had seen, as previously stated, cases treated in every stage, and had witnessed one or two autopsies on patients who had had large cavities.

Got his Lymph Legitimately.—Dr. H. Holbrook Curtis said, with regard to the newspaper gossip as to how he had obtained his lymph, that he had come about it legitimately, and that it was the genuine lymph. It had come through a physician of undisputable integrity, who had obtained it in Berlin. He was not the only private person who had obtained the lymph, and he disclaimed being the first to use it in the country. What was of more importance was a knowledge of the action of the remedy, and he thought that our studies should begin with the blood. Koch had stated that the destruction of the leucocytes in the blood, in pernicious anæmia, was arrested by inoculation with this lymph. The subject, he thought, should be studied further from this point of view.

Sclerosis of the Lungs in Porcelain Workers.—Dr. Lemaistre has published a paper upon sclerosis of the lung as induced in the workers in porcelain. Sections of the lung are generally colored, according to the material that has been introduced; but here the lung is blackish, although the substance introduced may be white, owing to inflammatory conditions. The symptoms are analogous to tuberculosis, and the diagnosis is difficult. The posterior aspect of the lung is most frequently the seat of the sclerosis. Sometimes the sounds of pulmonary emphysema, or of pleurisy, may be heard. It is, however, differentiated from emphysema by the absence of tympanitic sounds. The sputa are characteristic. There is no hectic fever or nocturnal sweating. Men are more frequently attacked than women. He has found bacilli in the sputa, and regards the disease as a tubercular fibrosis. The silicious particles produce ulcerations in the bronchi, upon which the tubercular matter is grafted, and continues to exert an irritant action which induces hyperplasia of the connective tissue. This, to a certain extent, is salutary. Iodides constitute the best treatment in this form of sclerosis.—*Le Progrès Médical.*

Correspondence.

KOCH'S METHOD IN VIENNA.

(From our Vienna Correspondent.)

VIENNA, December 1, 1890.

IT is now barely three weeks since Koch announced his discovery of a fluid possessing, when hypodermically injected, a specific power against tuberculous processes. But already, for ten days past—as soon as the mysterious compound could be brought here—experimentation has been going on daily in the clinics. The first cases injected were presented before the Vienna Medical Association. The interest was so great that the hall was packed, the aisles filled from door to platform, and many were unable to obtain even standing room. Dr. Hebra exhibited two cases of lupus, one of which showed the reaction typically. The whole skin was reddened by a scarlet erythema and the lupus patches on the hands were swelled and in spots necrotic looking. It was particularly interesting to observe that some old scars on the arms where the disease had seemed to be obsolete, had taken part in the reaction, and were red and swollen, indicating probably the persistence of tubercular material. Through the kindness of Professor Hebra, I have been able to follow this case from day to day. The second injection was given some four days after the first, and caused nearly as intense a reaction. The swollen, scabby lupus spots were then treated to a bath, and when softened sufficiently, were removed. The ulcers underneath looked healthy, red, and smooth, and began immediately to skin over. When they were nearly healed, a third injection was given. This caused a decided reaction, but not so profound as in the other instances. There is swelling and weeping of the lupus sites, but none of the angry, necrotic appearance previously noted.

Teachers in all departments are employing the new remedy. The extraordinary frequency of tubercular disease here is shown by the large number of cases of lupus and other tubercular skin lesions which crowd the clinics, and for which the hospital accommodations are too meagre, so that many must be bidden to wait. A number of cases of pulmonary tuberculosis have been inoculated, but the results are not yet determined. Professor Billroth has injected seven cases, including lupus, tubercular joint and bone disease, and tubercular abscess. On November 30th Professor Kaposi inoculated some thirteen cases of lupus, and, by way of control experiment, a number of cases of syphilis, one of sarcoma, and two of leprosy. The lupus cases all reacted severely, with chill, high temperature, delirium, and profound disturbances at the site of disease. None of the other cases reacted, except—which is very interesting—one of the lepra cases; the disturbances here were well marked, but not so profound as in the lupus cases.

No one that I have listened to here doubts that Koch's method produces astonishing results in lupus, but great caution is observed in regard to the acceptance of its effects as finally curative; and especially is much doubt expressed in reference to its action in pulmonary tuberculosis.

HOW THE INOCULATION IS MADE IN BERLIN.

(From our Special Correspondent.)

BERLIN, December 12, 1890.

FROM reports which have reached here from America it would appear that the methods used there are somewhat different from those employed here. At the risk, possibly, of repeating what may be a twice-told tale, it has occurred to me that a short description of the Berlin method might prove of passing interest. A description of the Koch syringe has already been given to you readers and need not be repeated. It will surprise some, perhaps, to learn that this instrument is not universally used even here, and that some prefer the ordinary hypodermic syringe which has, of course, been made aseptic. One reason for this is that the measuring of the quantities is easier of regulation and more accurate.

From the original Koch's lymph a small quantity (one cubic centimetre) is diluted ten times with a half per cent. solution of carbolic acid. This is marked accordingly as a ten per cent solution—is what may be called the "stock" solution from which the ultimate preparation for the injection is made. This is done by diluting the stock solution again ten times, *i.e.*, one cubic centimetre stock solution and nine cubic centimetres of solution of half per cent. of carbolic acid. This, then, is the one per cent. solution which is injected. Of this a decigramme of the Koch syringe will correspond with one milligramme of the original lymph, two decigrammes equalling two milligrammes, etc. This one per cent. solution will keep from eight to ten days, after which it loses its efficacy. This being the case it is always advisable that it should not be made in larger quantities than will be consumed in that period.

The rule here regarding the time and frequency of the inoculations is governed by the following circumstances: If after a small dose, which is considered to be a milligramme, neither the increased temperature nor any other reaction occurs within the first twenty-four hours, the inoculation can be repeated with twice the quantity. Some clinicians wait longer than that, sometimes for three days. If, however, the reaction is pronounced it is considered necessary to wait until the temperature and all other symptoms become normal, when the inoculation, in the same quantity, may be repeated. If after the second injection the temperature shows a tendency to fall from the first reaction, the third injection can be increased by one milligramme. I may say, in passing, that the usual rate of increase is one milligramme for each succeeding injection. When the reaction is very intense (106° F.) after the first inoculation the next injection must be reduced, and care must be taken that at the time of its administration all reactionary symptoms are absent. In general terms the size of the dose will depend upon the degree of reaction produced in different individuals. The usual quantity used in cases of phthisis is one milligramme, gradually increased to one centigramme. Occasionally it is even more than this. The rapidity of the increase depends upon the responding fall of the reaction, and, of course, varies in different individuals.

In surgical and lupus cases large doses have been given from the beginning, but at present there is a tendency, to be careful as to the amount even in these. The maximum dose for lupus, tubercular glands, and tubercular joints has been one centigramme, the minimum being one milligramme. Usually, however, a commencement is made with two milligrammes. It must be borne in mind that, even in what are supposed to be good cases for treatment, alarming symptoms may sometimes follow a first inoculation, such. for instance, as an unusually high temperature and threatened collapse. This circumstance has proved to be the strongest argument against the treatment of cases in private practice, which cannot be closely watched from hour to hour, as in the hospital ward. As far as I have learned, no case of death has occurred in this city as the direct result of the inoculation. This is explainable by the fact that prompt assistance has always been available when alarming symptoms showed themselves.

The duration of the inoculative treatment is generally from four to six weeks. By this must be meant that at the end of that period the reactions cease. It must be also understood that the case is not then considered cured, inasmuch, as a rule, the physical signs of phthisis still exist, and even the bacilli are found in the sputum. Therefore it is considered desirable to begin treatment in those incipient cases in which only small spots of the lung are affected, and in which the chances of repair are proportionately greater.

THE KOCH METHODS AT BERLIN.

To the Editor of the Medical Record.

[The following letter, just received from Dr. David Orr Edson, who is studying Professor Robert Koch's methods at Berlin, is of interest to the medical profession on this side of the water.]

Berlin, December 5, 1890.

. . . I am stopping at the Hotel Continental, and am sharing my rooms with Professor Samuel Dixon of the Bacteriological Department of the Jefferson Medical College of Philadelphia. I found it very difficult to obtain rooms, as the city is filled with physicians and tubercular patients. Dr. Dixon and I have been attending clinics and watching the effects of the "Koch substance," as it is called here. Yesterday we were invited by Dr. Golthdammer to visit his hospital (the Hospital Berthauer). This we did in the morning, and in the afternoon we made the rounds of the Charité Hospital, accompanied by Dr. Wilber a Wisconsin man, an assistant of Professor Koch, with whom he has been associated for the past four years. We saw many cases of pulmonary tuberculosis and lupus operated on by injection of the "substance," and also some very remarkable cures, or apparent cures, of tubercular disease of the knee- and hip-joint. It seems to me that these are the cases most favorably affected by the remedy.

The method of inoculation is as follows: One cubic centimetre of the original substance, which comes in vials holding 5 c.c. each, is diluted with 10 c.c. of boiled water (not distilled water), or with the same amount of solution of carbolized water. The first dose of this dilution should not be over two milligrammes in cases of pulmonary tuberculosis; but in cases of lupus 10 milligr. is the dose to commence with. Just before the inoculation this dilution is sterilized by heating over a spirit-lamp in a small test-tube having a cotton plug inserted in its opening. The Koch hypodermic syringes are not being used in the hospitals I have visited, as they are considered unreliable and not capable of perfect sterilization. The ordinary hypodermic syringe is in vogue.

After the inoculation of a patient with pulmonary lesions, who was not much emaciated, but who gave physical signs of cavities in apex of right lung, and whose sputa were loaded with tubercle bacilli, the symptoms were increased temperature (103½° F.), increased expectoration, and an even greater number of baccilli in sputa, and pain over the areas of both lungs. This reaction occurred about four hours after inoculation. Subsequently these symptoms subsided, the temperature went to normal, and the amount of expectoration, cough, and the number of bacilli in the sputa diminished to below what was present before inoculation. The procedure is continued from day to day, the dose being increased until 100 milligr. of dilution are given. After this last dose no reaction is expected. The action on the system, is, I learn, one in which combustion plays a prominent rôle, nitrogenous substances being found very largely in all the excreta. A very great loss of strength and vital capacity follows after the reaction.

Low vitality is a contra-indication to the use of the Koch method in all cases.

Patients whose vital powers are good, however, soon rally from the depressant effects.

I saw in the Charité Hospital a case of "pernicious anæmia" treated with the "Koch substance." Koch, you perhaps know, advances the theory that pernicious anæmia is due to the action of the tubercle bacilli on the phagocytes, leucocytes, and red blood corpuscles. He got a marked reaction from the use of the substance in cases of this kind, and in this case the reaction was well marked. From this fact it is generally conceded here that the disease is of tubercular origin.

I have been watching the effect of the remedy on a typical case of lupus of the nose. The case was in the person of a young girl, aged eighteen, and the physical condition was excellent. The parts are much swollen, both nostrils being entirely closed and the tip of the nose destroyed by the disease. After the first injection of 10 c.c. she was put to bed, and two hours later her temperature had risen to 101° F., pulse 79, and a cough began. In the matter coughed up tubercular bacilli were found, which before inoculation were not present in the examined sputa. Her nose became horribly swollen and congested. This, however, soon subsided, and after three doses, given on successive days, the organ had decreased to its normal size and almost to its normal color; a bluish tint remained, which will probably be permanent.

A curious feature of this case, and one which I am told is a constant occurrence in all cases of lupus and of tubercular disease of knee, hip, or intestine or bladder, is that localized pulmonary pain and soreness invariably follows inoculation with the "substance," thus indicating latent pulmonary involvement.

The hospitals here are so overcrowded that the food and the attendance on patients is very bad, and the hygienic condition due to overcrowding worse. To go from the fresh air into a ward is enough to nauseat even me. In my opinion the outcome of this will be a terrible mortality.

Dr. Dixon was given an audience by Professor Koch day before yesterday. Dixon, as you know, published an article, over a year ago, which was copied extensively by American and English medical journals, in which he claimed to have cured surgical tuberculosis, *i.e.*, inoculated tuberculosis, in guinea-pigs by means of a product of the involution form of the tubercle bacillus. This article did not describe in detail Dixon's method of obtaining his substance. He has, however, described it to me in detail, giving me the test by which he determines its purity. I am greatly impressed with it, and believe it is practically identical with Koch's discovery. I am not at liberty to give it to you until I can obtain Dr. Dixon's consent. Koch questioned him very closely about it, and asked if he had inoculated into the human economy, to which Dixon replied, "No."

Koch told Dixon that cases of laryngeal tuberculosis gave the best results in treatment with his substance.

There has been considerable feeling engendered by the German press against Dixon, which was intensified by the English papers taking his part, and saying that if Koch's "substance" was a product of the tubercle germ, then to Dixon belonged the credit of priority of discovery.

Dixon published a card denying any intent on his part of robbing Koch of his glory, and after its publication he was sent for by the latter. Since his interview with Koch he has been the recipient of many calls and favors from eminent members of the profession here.

I would like to write much more, but time will not allow at present. You will, however, soon hear from me again. Yours, etc.,

David Orr Edson, M.D.

THE CO-EDUCATION OF THE SEXES.

To the Editor of the Medical Record.

Sir: The discussion of the question of the co-education of the sexes, by a symposium of medical gentlemen in a recent number of the *Medical News*, recalls my personal observations of the influence of a woman upon a medical class.

The first course of medical lectures which I attended was in a medical college in the interior of the State. The class, numbering about one hundred and fifty students, was composed largely of young men from the neighboring towns. They were rude, boisterous, and riotous beyond comparison. On several occasions the residents of the neighborhood sent written protests to the faculty, threatening to have the college indicted as a nuisance if the disturbances did not cease. During lectures it was often almost impossible to hear the professors, owing to the confusion.

Some weeks after the course began the Dean appeared before the class with a letter in his hand which he craved the indulgence of the students to be allowed to read. Anticipation was extreme when he announced that it contained the most extraordinary request which had ever been made to the faculty. The letter was written by a physician of Philadelphia, who requested the faculty to admit as a student a lady who was studying medicine in his office. He stated that she had been refused admission by several medical colleges, but as this institution was in the country, he thought it more likely to be free from prejudice against a woman medical student. The Dean stated that the faculty had taken action on the communication and directed him to report their conclusion to the class. The faculty decided to leave the matter in the hands of the class, with this understanding, that if any single student objected to her admission a negative reply would be returned. It subsequently appeared that the faculty did not intend to admit her, but wished to escape direct refusal by referring the question to the class, with a proviso which, it was believed, would necessarily exclude her.

But the whole affair assumed the most ludicrous aspect to the class, and the announcement was received with the most uproarious demonstrations of favor. A meeting was called for the evening, which was attended by every member. The resolution approving the admission of the lady was sustained by a number of most extravagant speeches, which were enthusiastically cheered. The vote was finally taken, with what seemed to be one unanimous yell "Yea!" When the negative vote was called a single voice was heard uttering a timid "No." The scene that followed passes description. A general rush was made for the corner of the room which emitted the voice, and the recalcitrant member was only too glad to acknowledge his error, and record his vote in the affirmative. The faculty received the decision of the class with evident disfavor, and returned an answer admitting the lady student. Two weeks or more elapsed, and as the lady student did not appear the incident of her application was quite forgotten, and the class continued in its riotous career. One morning, all unexpectedly, a lady entered the lecture-room with the professor, she was quite small of stature, plainly dressed, appeared diffident and retiring, but had a firm and determined expression of face. Her entrance into that Bedlam of confusion acted like magic upon every student. Each hurriedly sought his seat and the most absolute silence prevailed. For the first time a lecture was given without the slightest interruption, and every word could be heard as distinctly as it could if there had been but a single person in the room. The sudden transformation of this class from a band of lawless desperadoes to gentlemen, by the mere presence of a lady, proved to be permanent in its effects. A more orderly class of medical students was never seen than this, and it continued to be to the close of the term.

The real test of the influence of a woman upon the conduct and character of man in co-education was developed when the professor of anatomy came to that part of his course which required demonstrations that he believed should be witnessed only by men. The professor was a rollicking, jovial man, who constantly interspersed his lectures with witty remarks and funny anecdotes. Nor did he study to have his language chaste, or the moral of his stories pure and elevating. In fact, vulgarity and profanity formed a large part of his ordinary lectures, and especially was this true of the lectures on the branch of anatomy above mentioned. On this account, chiefly, he was exceedingly popular with the class, and during his lectures stamping, clapping, and cheering were the principal employments of the students.

One morning our lady student was missed at the lecture on anatomy, and the professor entered the room evidently laboring under great excitement. He stated that he had a communication to make to the class which demanded the most serious consideration. He then explained that he had thought it highly improper that the lady student should attend certain lectures specially adapted for men, and as he was approaching that subject he had frankly advised her to absent herself, in a letter which he read. He dwelt upon the indelicacy of the subject, the embarrassment under which he should labor if a lady were present, and the injustice which would be done to the class by the imperfect manner in which he should be obliged to demonstrate the subject. He closed by offering her abundant private opportunities for study and dissection. He then read her reply. It was gracefully written and showed a full appreciation of his embarrassing position, when viewed from the low stand point of impure and unchaste sentiments. But she could not conceive of a medical man whose mind was not so elevated and purified by the study of the science of anatomy that such sentiments would for a moment influence him. Coming to the practical question of her attendance upon these lectures, she declared that she paid for a full course, and that she was not to be thwarted by so trivial an objection as he had raised from receiving the full amount of instruction to which her tickets entitled her. If the professor would really be embarrassed by the presence of a lady's bonnet on the first tier of seats, she would take her seat on the upper tier, and remove her hat, and she trusted that his interest in his subject would lead him to entirely forget the presence of student No. 130—her registered number. At the close of the letter the professor acknowledged the justice of the rebuke which he had received, and declared that a lady who was animated by such elevated views of her profession was entitled to every possible encouragement which the class or faculty could give. He then opened the door, and she entered, only to receive an ovation of the most overwhelming character. The lectures on anatomy proceeded in regular order to their conclusion, and it was the universal testimony of the oldest students that they had never listened to such a complete and thorough course.

At the close of the term our lady student came up for examination for graduation, and took rank with the best students of the class. As this was the first instance of the granting of a medical diploma to a woman in this country, so far as the faculty had information, there was at first some hesitation about conferring the degree. But it was finally determined to take the novel step, and in the honor list of the roll of graduates for that year appears the name, Dr. Emily Blackwell.

Yours, etc.,

STEPHEN SMITH, M.D.

574 MADISON AVENUE.

Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 20, 1890.

	Cases.	Deaths.
Typhus fever	0	0
Typhoid fever	12	3
Scarlet fever	86	11
Cerebro-spinal meningitis	2	1
Measles	319	15
Diphtheria	114	37
Small-pox	0	0
Varicella	9	0
Pertussis	4	4

The Newspapers and Koch.—Far from being Koch-sure on the consumption cure, the daily press is going off half-Kochcd, in its efforts to hit rumors on the wing.

Bequests to Pittsburg Medical Charities.—By the will of the late William Thaw there is given to the Allegheny Hospital, $20,000; Homœopathic Hospital, $25,000; Mercy Hospital, $20,000.

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